User's Guide

TRENDnet®

N900 Dual Band Wireless Router

TEW-692GR

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Product Overview

Package Contents

In addition to the access point, the package includes:

- TEW-692GR N450 Wireless Gigabit Router
- CD-ROM (Utility and User's Guide)
- Multi-Language Quick Installation Guide
- Network cable Ethernet Cable (1.5m / 5ft.)
- Power Adapter (12V, 1A)

If any package contents are missing or damaged, please contact the retail store, online retailer, or reseller/distributor from which the product was purchased.

Features

TRENDnet's N900 Wireless Concurrent Router, model TEW-692GR, is the first router to support 450Mbps speeds on both the 2.4GHz and 5GHz bands at the same time. This router's raw horsepower redefines wireless networking as we know it, to easily stream HD video through the home.
Gigabit Wide Area Network and Local Area Network ports transfer wired data fast. Embedded GREENnet technology reduces port-based power consumption by up to 70%. Advanced Multiple Input Multiple Output (MIMO) antenna technology reduces wireless dead spots. Wi-Fi Protected Setup (WPS) connects other WPS supported wireless adapters at the touch of a button. WMM® Quality of Service (QoS) technology prioritizes gaming, Internet calls, and video streams. Assign up to four virtual networks on each wireless band and manage access control for IP addresses, website URLs, and data protocols.

- 4 x 10/100/1000Mbps Auto-MDIX LAN ports
- 1 x 10/100/1000Mbps WAN port (Internet)
- 1 x Wi-Fi Protected Setup (WPS) button
- On/off power switch (EU Version)
- 1 x Wi-FI Protected Setup (WPS) button
- Compliant with IEEE 802.11n/b/g/a standards
- High-speed data rates of up to 450Mbps using both 2.4GHz and 5GHz bands
- Compatible with most popular cable/DSL Internet Service Providers using Dynamic/Static IP, PPPoE, L2TP, and PPTP connection
- Advanced firewall protection with Network Address Translation (NAT)
- Advance wireless security of up to WPA2-RADIUS
- DMZ support
- Wi-Fi Multimedia (WMM) Quality of Service (QoS) data prioritization
- Support for up to four virtual wireless networks (SSIDs) per wireless band
- Gaming Port Controls: supports opening multiple ports or a range of ports
- Internet Access Control with MAC, URL, Service Type, and IP Range filtering
- Internet Access Control Rule Scheduling: schedule access to websites, online video games, Internet cameras and more for specific times through the week
- One touch wireless connection using the WPS button
- Easy setup via Web browser using the latest versions of Internet Explorer, FireFox, Safari and Chrome

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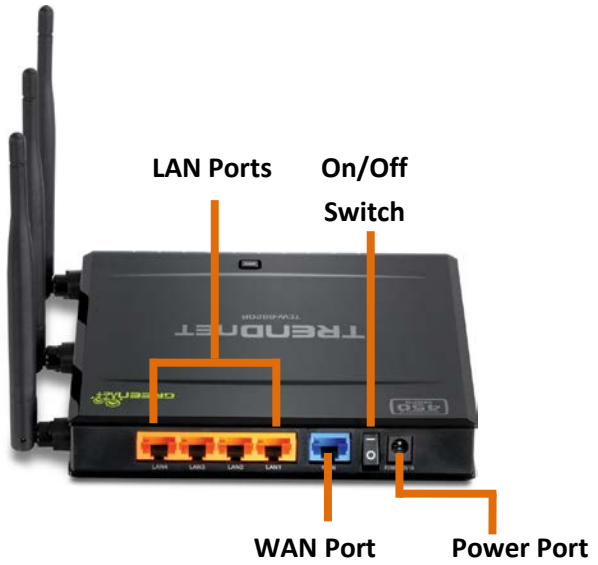
- Virtual server and Application Level Gateway (ALG) services for special Internet applications
- Universal Plug and Play (UPnP) for auto discovery and support for device configuration of Internet applications
- 3- year limited warranty

*Maximum wireless signal rates are referenced from IEEE 802.11 theoretical specifications. Actual data throughput and coverage will vary depending on interference, network traffic, building materials and other conditions.

Product Hardware Features

Rear View



- **LAN ports:** 4x 10/100/1000Mbps Auto-MDIX ports. Connect Ethernet cables (also called network cables) from your router LAN ports to your wired network devices.
- **WAN/Internet portr:** 1x 10/100/1000Mbps Auto-MDIX port. Connect an Ethernet cable from your router WAN port to your modem.
- **On/Off power switch (EU version):** Switch to the on position to power on the device.
- **Power port:** Connect the included power adapter from your router power port and to an available power outlet.

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Front View

- **Power LED** -This LED indicator is solid green when your router is powered on. Otherwise if this LED indicator is off, there is no power to your router.
- **WAN (Link/Activity) LED** – This LED indicator is solid green when your router WAN port is physically connected to the modem Network port (also called network port) successfully with a Network cable. The LED indicator will be
- **LAN 1-4 (Link/Activity) LEDs** – These LED indicators are solid green when the LAN ports are successfully connected to your wired network devices (which are turned on). These LED indicators will blink green while data is transmitted or received through your router's LAN ports.
- **2.4GHz WLAN (Link/Activity) LED** – This LED indicator is blinking green when the wireless is "On" and functioning properly on your router. This LED indicator will be blinking green rapidly while data is transmitted or received by your wireless clients or wireless network devices connected to your router.
- **5GHz WLAN (Link/Activity) LED** – This LED indicator is blinking orange when the wireless is "On" and functioning properly on your router. This LED indicator will be blinking green rapidly while data is transmitted or received by your wireless clients or wireless network devices connected to your router.
- **WPS LED** - The button LED is blinking when WPS is activated.
- **WPS (Wi-Fi Protected Setup)** – Push and hold this button for 5 seconds to activate WPS.

Side View

- **Reset Button:** Use an item such as a paperclip to push and hold this button for 10 seconds and release to reset your router to its factory defaults.

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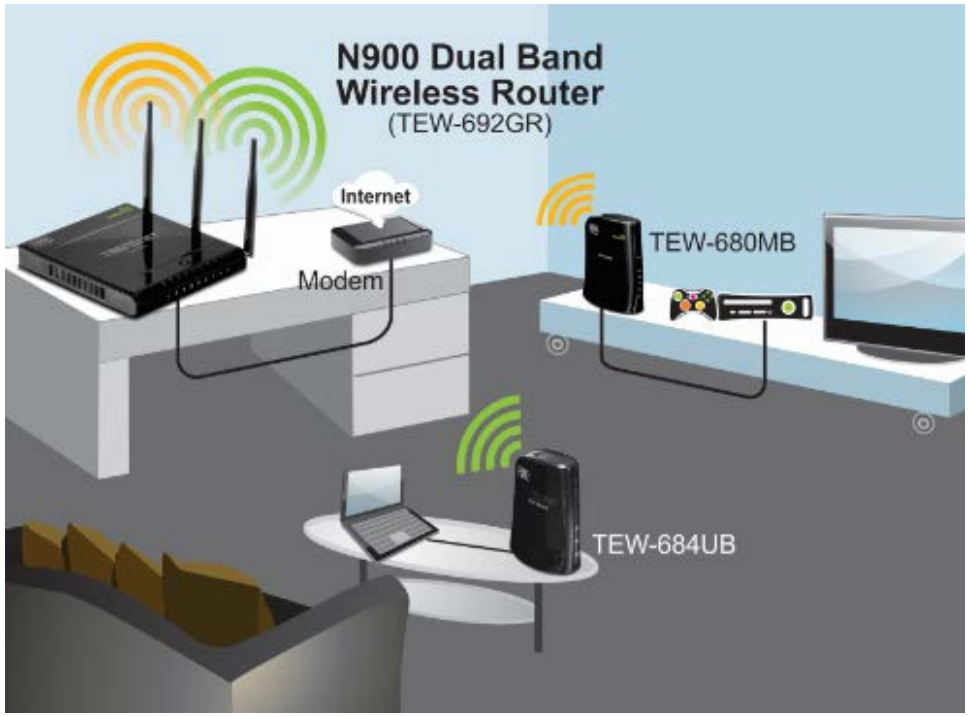
Application Diagram



The access point is installed near the router and physically connected to it from one of the LAN port of the router which connects to the Internet. Wireless signals from the router are broadcasted to wireless clients such as laptops (with wireless capability) thereby providing Internet access.

Wireless Performance Considerations

There are a number of factors that can impact the range of wireless devices.

1. Adjust your wireless devices so that the signal is traveling in a straight path, rather than at an angle. The more material the signal has to pass through the more signal you will lose.
2. Keep the number of obstructions to a minimum. Each obstruction can reduce the range of a wireless device. Position the wireless devices in a manner that will minimize the amount of obstructions between them.
3. Building materials can have a large impact on your wireless signal. In an indoor environment, try to position the wireless devices so that the signal passes through less dense material such as dry wall. Dense materials like metal, solid wood, glass or even furniture may block or degrade the signal.
4. Antenna orientation can also have a large impact on your wireless signal. Use the wireless adapter's site survey tool to determine the best antenna orientation for your wireless devices.
5. Interference from devices that produce RF (radio frequency) noise can also impact your signal. Position your wireless devices away from anything that generates RF noise, such as microwaves, radios and baby monitors.
6. Any device operating on the 2.4GHz frequency will cause interference. Devices such as 2.4GHz cordless phones or other wireless remotes operating on the 2.4GHz frequency can potentially drop the wireless signal. Although the phone may not be in use, the base can still transmit wireless signal. Move the phone's base station as far away as possible from your wireless devices.

If you are still experiencing low or no signal consider repositioning the wireless devices or installing additional access points. The use of higher gain antennas may also provide the necessary coverage depending on the environment.

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Basic Router Setup

Creating a Home Network

What is a network?

A network is a group of computers or devices that can communicate with each other. A home network of more than one computer or device also typically includes Internet access, which requires a router.

A typical home network may include multiple computers, a media player/server, a printer, a modem, and a router. A large home network may also have a switch, additional routers, access points, and many Internet-capable media devices such as TVs, game consoles, and Internet cameras.

- **Modem** – Connects a computer or router to the Internet or ISP (Internet Service Provider).
- **Router** – Connects multiple devices to the Internet.
- **Switch** –Connect several wired network devices to your home network. Your router has a built-in network switch (the LAN port 1-4). If you have more wired network devices than available Ethernet ports on your router, you will need an additional switch to add more wired connections.

How to set up a home network

1. For a network that includes Internet access, you'll need:
   - Computers/devices with an Ethernet port (also called network port) or wireless networking capabilities.
   - A modem and Internet service to your home, provided by your ISP (modem typically supplied by your ISP).
   - A router to connect multiple devices to the Internet.
2. Make sure that your modem is working properly. Your modem is often provided by your Internet Service Provider (ISP) when you sign up for Internet service. If your modem is not working contact your ISP to verify functionality.
3. Set up your router. See "How to setup your router" below.
4. To connect additional wired computers or wired network devices to your network, see "Connect additional wired devices to your network" on page 13.
5. To set up wireless networking on your router, see "Wireless Networking and Security" on page 14.

How to setup your router

Refer to the Quick Installation Guide or continue to the next section "Router Installation" on page 9 for more detailed installation instructions.

Where to find more help

In addition to this User's Guide, you can find help below:

- http://www.trendnet.com/support (documents, downloads, and FAQs are available from this Web page)

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Router Installation

Before you Install

Many Internet Service Providers (ISPs) allow your router to connect to the Internet without verifying the information fields listed below. Skip this section for now and if your router cannot connect to the Internet using the standard installation process, come back to this page and contact your ISP to verify required ISP specification fields listed below.

1. Obtain IP Address Automatically (DHCP)
Host Name (Optional)
Clone Mac Address (Optional)

2. Fixed IP address
WAN IP Address: _____. _____._____._____
(e.g. 215.24.24.129)
WAN Subnet Mask: _____. _____._____._____
WAN Gateway IP Address: _____. _____._____._____
DNS Server Address 1: _____. _____._____._____
DNS Server Address 2: _____. _____._____._____

3. PPPoE to obtain IP automatically
User Name: _____
Password: _____
Verify Password: _____

4. PPPoE with a fixed IP address
User Name: _____
Password: _____
Verify Password: _____
IP Address: ____. _____._____._____ (e.g. 215.24.24.129)

5. PPTP or Russian PPTP
Type (Dynamic IP or Static IP)
My IP Address: _____. _____._____._____
(e.g. 215.24.24.129)
Subnet Mask:_____. _____._____._____
Gateway:_____. _____._____._____
Server IP: _____. _____._____._____
PPTP Account: _____
PPTP Password: _____
Retype Password: _____

6. L2TP or Russia L2TP
Type (Dynamic IP or Static IP)
My IP Address: _____. _____._____._____
(e.g. 215.24.24.129)
Subnet Mask:_____. _____._____._____
Gateway:_____. _____._____._____
Server IP: _____. _____._____._____
L2TP Account: _____
L2TP Password: _____
Retype Password: _____

7. Russia PPPoE
Type (Dynamic IP or Static IP)
User Name: _____
Password: _____
Verify Password: _____
IP Address: ____. _____._____._____ (e.g. 215.24.24.129)

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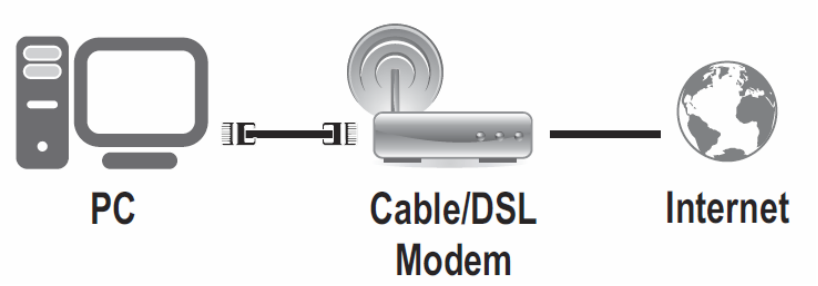
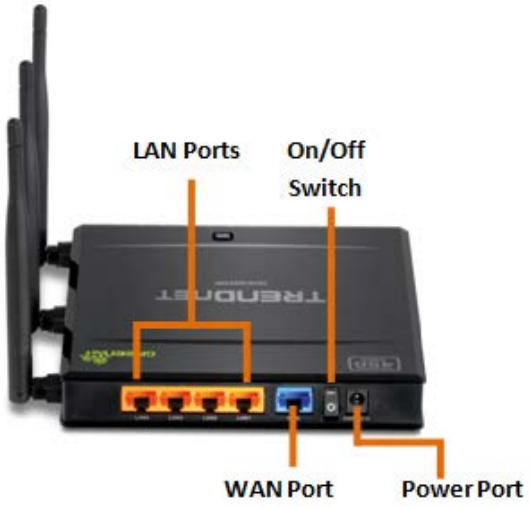
Hardware Installation

1. Verify that you have an Internet connection when connecting your computer directly to your modem.



2. Turn off your modem.
3. Disconnect the Network cable from your computer to your modem.

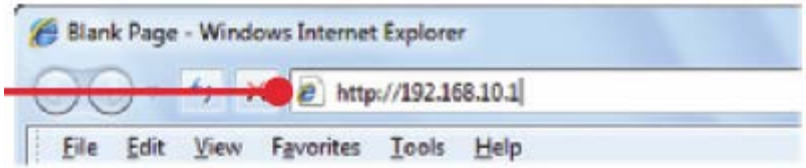


4. Using a Network cable, connect the WAN port on the router to your modem.
5. Using another Network cable, connect your computer to one of the four LAN ports on the router.
6. Plug in the power adapter, connect it to the router's power port, and then push the On/Off Power Switch to the "On" position (pushed in).
7. Turn on your modem.

8. Verify that the following front panel LED indicators on your router: Power (Solid Green), Status (Blinking Green), LAN 1, 2, 3, or 4 (Solid/Blinking Green for ports for which devices are connected), WAN (Solid/Blinking Green), and WLAN (Blinking Green).

Setup Wizard

1. Open your web browser (e.g. Internet Explorer, Firefox, Safari, Chrome, or Opera) and go to http://192.168.10.1. Your router will prompt you for a user name and password.



2. Enter the default user name and password and then click Login.

   Default User Name: **admin**
   Default Password: **admin**

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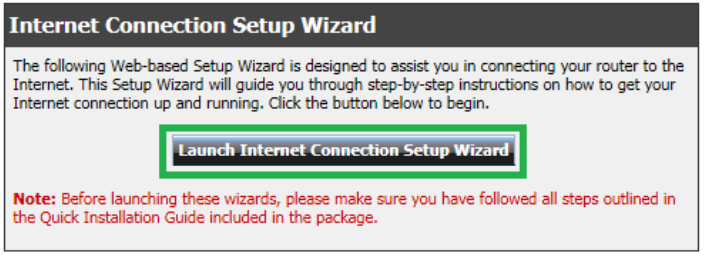
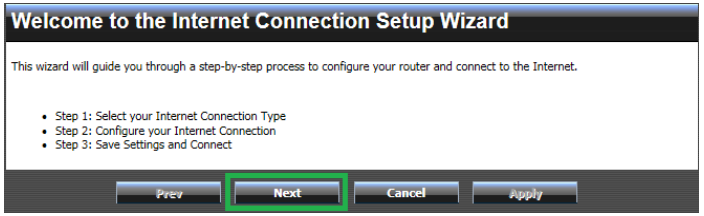
Windows Security
The server 192.168.10.1 requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name admin
Password admin
Remember my credentials
OK
Cancel

3. Click the Wizard button on the left side.

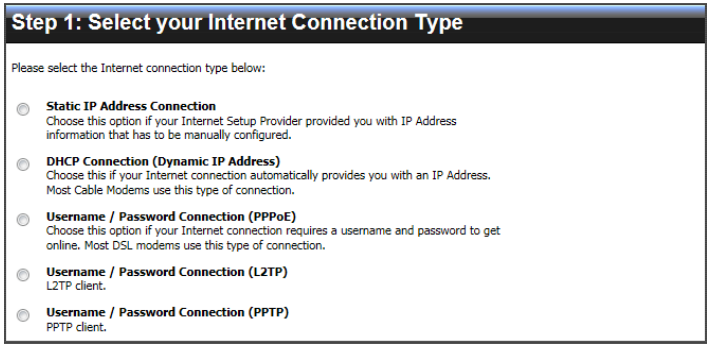
4. Click "*Launch Internet Connection Setup Wizard*" to setup your Internet connection on the router.


Internet Connection Setup Wizard
The following Web-based Setup Wizard is designed to assist you in connecting your router to the Internet. This Setup Wizard will guide you through step-by-step instructions on how to get your Internet connection up and running. Click the button below to begin.
Launch Internet Connection Setup Wizard
Note: Before launching these wizards, please make sure you have followed all steps outlined in the Quick Installation Guide included in the package.

5. Click Next to begin the wizard


Welcome to the Internet Connection Setup Wizard
This wizard will guide you through a step-by-step process to configure your router and connect to the Internet.
Step 1: Select your Internet Connection Type
Step 2: Configure your Internet Connection
Step 3: Save Settings and Connect
Prev
Next
Cancel
Apply

7. Select your Internet connection type and click Next to continue. Note: The most common Internet connection used is DHCP.


Step 1: Select your Internet Connection Type
Please select the Internet connection type below:
Static IP Address Connection
Choose this option if your Internet Setup Provider provided you with IP Address information that has to be manually configured.
DHCP Connection (Dynamic IP Address)
Choose this if your Internet connection automatically provides you with an IP Address. Most Cable Modems use this type of connection.
Username / Password Connection (PPPoE)
Choose this option if your Internet connection requires a username and password to get online. Most DSL modems use this type of connection.
Username / Password Connection (L2TP)
L2TP client.
Username / Password Connection (PPTP)
PPTP client.

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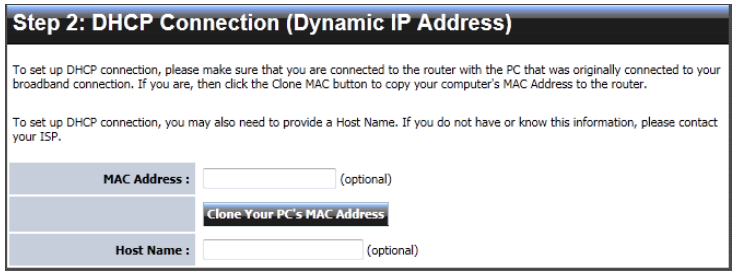
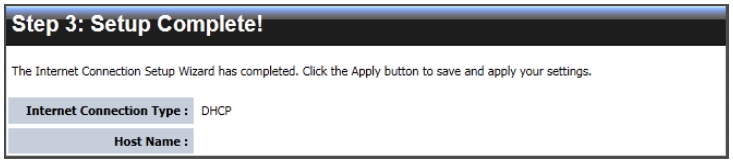
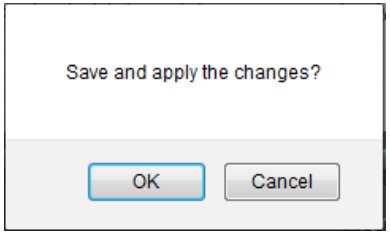
8. Some ISP (Internet Service Providers) requires their customer to clone MAC address of their computer into the router. Click "*Clone Your PC's MAC Address*" if your ISP requires this step. Click Next to continue.


Step 2: DHCP Connection (Dynamic IP Address)
To set up DHCP connection, please make sure that you are connected to the router with the PC that was originally connected to your broadband connection. If you are, then click the Clone MAC button to copy your computer's MAC Address to the router.
To set up DHCP connection, you may also need to provide a Host Name. If you do not have or know this information, please contact your ISP.
MAC Address :
(optional)
Clone Your PC's MAC Address
Host Name :
(optional)

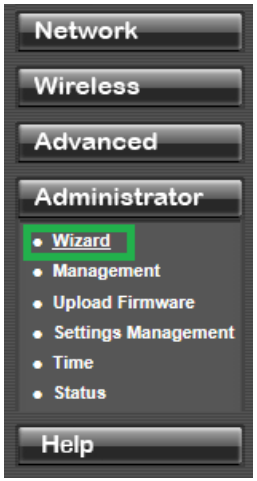
9. Verify if your settings are correct and click Apply to complete the Internet Setup Wizard.


Step 3: Setup Complete!
The Internet Connection Setup Wizard has completed. Click the Apply button to save and apply your settings.
Internet Connection Type :
DHCP
Host Name :

10. Click OK to apply your settings.



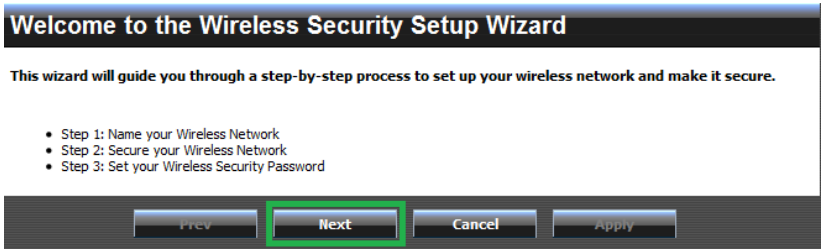
11. The router will reboot once the process is completed. Click the Wizard button again to run the Wireless Setup Wizard.



12. Click "Launch Wireless Security Setup Wizard".

Wireless Security Setup Wizard
The following Web-based Setup Wizard is designed to assist you in your wireless network setup. This Setup Wizard will guide you through step-by-step instructions on how to set up your wireless network and how to make it secure.
Launch Wireless Security Setup Wizard
Note: Some changes made using this Setup Wizard may require you to change some settings on your wireless client adapters so they can still connect to the router.

13. Click Next to begin


Welcome to the Wireless Security Setup Wizard
This wizard will guide you through a step-by-step process to set up your wireless network and make it secure.
Step 1: Name your Wireless Network
Step 2: Secure your Wireless Network
Step 3: Set your Wireless Security Password
Prev
Next
Cancel
Apply

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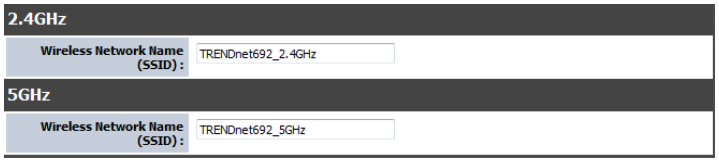
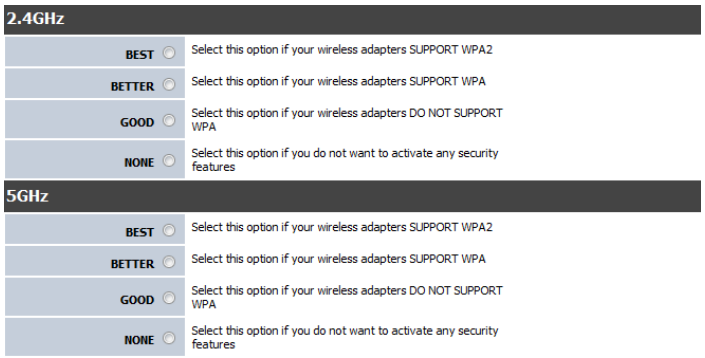
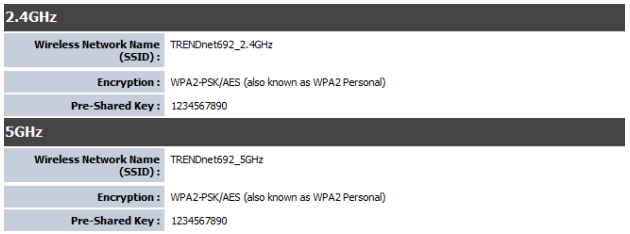
14. Configure the Wireless Network Name (SSID) of the router for both 2.4GHz and 5GHz bands. This name will be used when connecting to your wireless network. Click Next to continue



15. Select the type of wireless security to use for both 2.4GHz and 5GHz bands. Click Next to continue. It is recommended to use wireless security to protect your wireless network from any intruders.


2.4GHz
BEST
Select this option if your wireless adapters SUPPORT WPA2
BETTER
Select this option if your wireless adapters SUPPORT WPA
GOOD
Select this option if your wireless adapters DO NOT SUPPORT WPA
NONE
Select this option if you do not want to activate any security features
5GHz
BEST
Select this option if your wireless adapters SUPPORT WPA2
BETTER
Select this option if your wireless adapters SUPPORT WPA
GOOD
Select this option if your wireless adapters DO NOT SUPPORT WPA
NONE
Select this option if you do not want to activate any security features

16. Enter the password or encryption key. Click Next to continue.
17. Verify your wireless settings are correct and click Apply.



Note: *Save your wireless settings in a location you can find easily in case you forget the applied wireless settings.*

Connect additional wired devices to your network

You can connect additional computers or other network enabled devices to your network by using Ethernet cables to connect them to one of the available LAN ports labeled 1,2,3,4 on your router. Check the status of the LED indicators (1, 2, 3, or 4) on the front panel of your router to ensure the physical cable connection from your computer or device.

Note: *If you encounter issues connecting to your network, there may be a problem with your computer or device network settings. Please ensure that your computer or device network settings (also called TCP/IP settings) are configured to obtain IP address settings automatically (also called dynamic IP address or DHCP) and to Obtain DNS Server address settings automatically.*

LAN Ports

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Wireless Networking and Security

How to choose the type of security for your wireless network

Setting up wireless security is very important. Leaving your wireless network open and unsecure could expose your entire network and personal files to outsiders. TRENDnet recommends reading through this entire section and setting up wireless security on your new router.

There are a few different wireless security types supported in wireless networking each having its own characteristics which may be more suitable for your wireless network taking into consideration compatibility, performance, as well as the security strength along with using older wireless networking hardware (also called legacy hardware).

It is strongly recommended to enable wireless security to prevent unwanted users from accessing your network and network resources (personal documents, media, etc.).

In general, it is recommended that you choose the security type with the highest strength and performance supported by the wireless computers and devices in your network. Please review the security types to determine which one you should use for your network.

Wireless Encryption Types

- **WEP:** Legacy encryption method supported by older 802.11b/g hardware. This is the oldest and least secure type of wireless encryption. It is generally not recommended to use this encryption standard, however if you have old 802.11 b or 802.11g wireless adapters or computers with old embedded wireless cards(wireless clients), you may have to set your router to WEP to allow the old adapters to connect to the router.

  ***Note**: This encryption standard will limit connection speeds to 54Mbps.*

- **WPA:** This encryption is significantly more robust than the WEP technology. Much of the older 802.11g hardware was been upgraded (with firmware/driver upgrades) to support this encryption standard. Total wireless speeds under this encryption type however are limited to 54Mbps.
- **WPA-**Auto: This setting provides the router with the ability to detect wireless devices using either WPA or WPA2 encryption. Your wireless network will automatically change the encryption setting based on the first wireless device connected. For example, if the first wireless client that connects to your wireless network uses WPA encryption your wireless network will use WPA encryption. Only when all wireless clients disconnect to the network and a wireless client with WPA2 encryption connects your wireless network will then change to WPA2 encryption. NOTE: WPA2 encryption supports 802.11n speeds and WPA encryption will limit your connection speeds to 54Mbps
- **WPA2:** This is the most secure wireless encryption available today, similar to WPA encryption but more robust. This encryption standard also supports the highest connection speeds. TRENDnet recommends setting your router to this encryption standard. If you find that one of your wireless network devices does not support WPA2 encryption, then set your router to either WPA or WPA-Auto encryption.

***Note:** Check the specifications of your wireless network adapters and wireless appliances to verify the highest level of encryption supported.*

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Below is brief comparison chart of the wireless security types and the recommended configuration depending on which type you choose for your wireless network.

Security Standard	WEP	WPA	WPA2
Compatible Wireless Standards	IEEE 802.11a/b/g (802.11n devices will operate at 802.11g to connect using this standard)	IEEE 802.11a/b/g (802.11n devices will operate at 802.11g to connect using this standard)	IEEE 802.11a/b/g/n
Highest Performance Under This Setting	**Up to 54Mbps**	**Up to 54Mbps**	**Up to 450Mbps***
Encryption Strength	Low	Medium	High
Additional Options	Open System or Shared Key, HEX or ASCII, Different key sizes	TKIP or AES, Preshared Key or RADIUS	TKIP or AES, Preshared Key or RADIUS
Recommended Configuration	Open System ASCII 13 characters	TKIP Preshared Key 8-63 characters	AES Preshared Key 8-63 characters

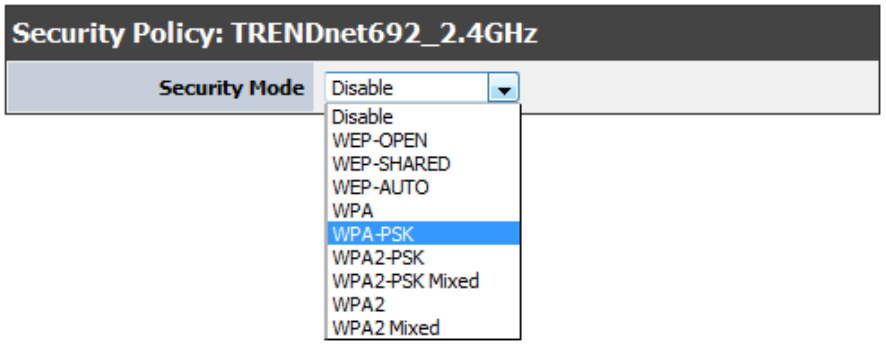
*Dependent on the maximum 802.11n data rate supported by the device (150Mbps, 300Mbps, or 450Mbps)

Secure your 2.4GHz wireless network

Wireless 2.4GHz > Security

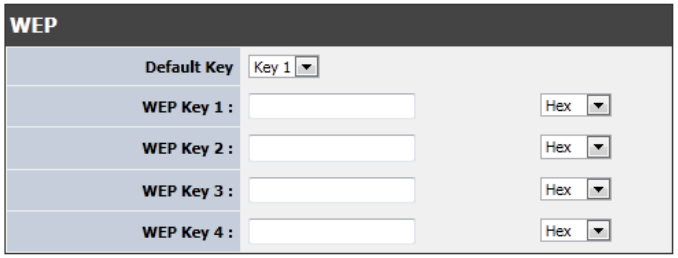
After you have determined which security type to use for your wireless network (see "How to choose the security type for your wireless network" on page 14), you can set up wireless security.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on Wireless band you would like to configure either **Wireless** and click on **Security**.
3. Click on the **Security Mode** drop-down list to select your wireless security type.



Selecting WEP:

If selecting **WEP** (Wired Equivalent Privacy), please review the WEP settings to configure and click **Apply** to save the changes.



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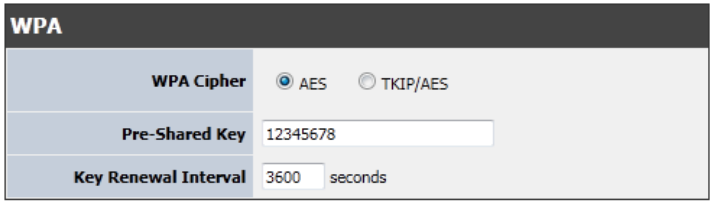
- **WEP**– Choose **Open System** or **Shared Key**.
  Note: *It is recommended to use Open System because it is known to be more secure than Shared Key.*
- **Mode** – Choose **HEX** or **ASCII**.
  Note: *It is recommended to use ASCII because of the much larger character set that can be used to create the key.*
- **WEP Key** – Choose the key length **64-bit** or **128-bit**.
  Note: *It is recommended to use 128-bit because it is more secure to use a key that consists of more characters.*

- **Key 1-4**
  - This is where you enter the password or key needed for a computer to connect to the router wirelessly
  - You can define up to 4 passwords or 4 keys. Only one key can be active at a given time. Most users simply define one key.
  - Choose a key index 1, 2, 3, or 4 and enter the key.
  - When connecting to the router, the client must match both the password and the Key number. (e.g. if you have activated Key 2 with a password of 12345, then the client must select: Key 2 (entering Key 1, 3, or 4 will block the ability to connect) and enter password 12345)

Selecting WPA-PSK, WPA2-PSK, or WPA2-PSK Mixed (WPA2-PSK recommended):



The following section outlines options when selecting PSK (Preshared Key Protocol),

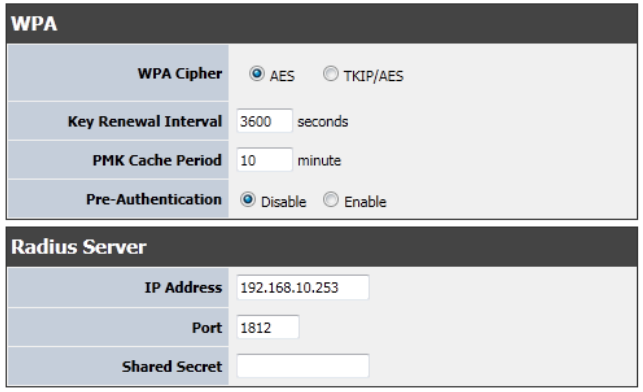
- Select a Cipher Type. When selecting **WPA-PSK** security, it is recommended to use **TKIP.**
- When selecting **WPA2-PSK Mixed** security, it is recommended to use **AES.**
- When selecting **WPA2-PSK** security, it is recommended to use **AES**.

Create your Wireless security Pres-Shared Key (password or key):

- **Passphrase** – Enter the passphrase.
  - This **is the password or key that is used to connect your computer to this router wirelessly**
- **Confirmed Passphrase** – Re-enter the passphrase.
  Note: *8-63 alphanumeric characters (a,b,C,?,*, /,1,2, etc.)*

Selecting WPA, WPA2, or WPA2Mixed:

WEP Key Format	HEX	ASCII
Character set	0-9 & A-F, a-f only	Alphanumeric (a,b,C,?,*, /,1,2, etc.)
64-bit key length	10 characters	5 characters
128-bit key length	26 characters	13 characters



The following section outlines options when selecting EAP (Extensive Authentication Protocol), **EAP** (Extensible Authentication Protocol) is also called Remote Authentication Dial-In User Service or RADIUS.

Note: *EAP requires an external RADIUS server, PSK only requires you to create a passphrase.*

- **Cipher Type**
  - When selecting **WPA** security, it is recommended to use **TKIP.**
  - When selecting **WPA-Auto** security, it is recommended to use **AES.**
  - When selecting **WPA2** security, it is recommended to use **AES**.

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- **Key Renewal Interval**
  - Set the renewal key interval based on seconds.
- **PMK Cache Period**
  - Set the cache period based on minutes
- **Pre-Authentication**
  - Enable or disable pre-authentication of your wireless encryption
- **Radius Server** - Configure the RADIUS server settings.
  - **IP** – Enter the IP address of the RADIUS server. (e.g. *192.168.10.250)*
  - **Port** – Enter the port your RADIUS server is configured to use for RADIUS authentication.

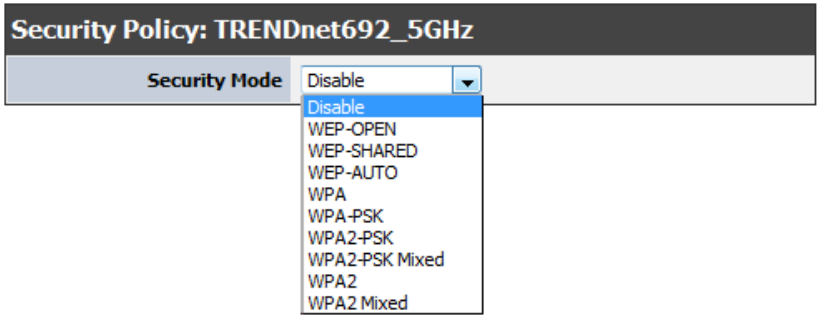
  Note: *It is recommended to use port 1812.*
  - **Shared Secret** – Enter the shared secret used to authorize your router with your RADIUS server.

Secure your 5GHz wireless network

Wireless 5GHz > Security

After you have determined which security type to use for your wireless network (see "How to choose the security type for your wireless network" on page 14), you can set up wireless security.

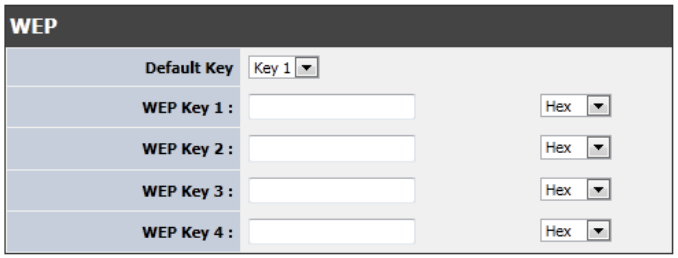
1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on Wireless band you would like to configure either **Wireless** and click on **Security**.
3. Click on the **Security Mode** drop-down list to select your wireless security type.



Selecting WEP:

If selecting **WEP** (Wired Equivalent Privacy), please review the WEP settings to configure and click **Apply** to save the changes.

WEP Key Format	HEX	ASCII
Character set	0-9 & A-F, a-f only	Alphanumeric (a,b,C,?,*, /,1,2, etc.)
64-bit key length	10 characters	5 characters
128-bit key length	26 characters	13 characters



- **WEP:** Choose **Open System** or **Shared Key**.
  Note: *It is recommended to use Open System because it is known to be more secure than Shared Key.*
- **Mode** – Choose **HEX** or **ASCII**.
  Note: *It is recommended to use ASCII because of the much larger character set that can be used to create the key.*
- **WEP Key** – Choose the key length **64-bit** or **128-bit**.

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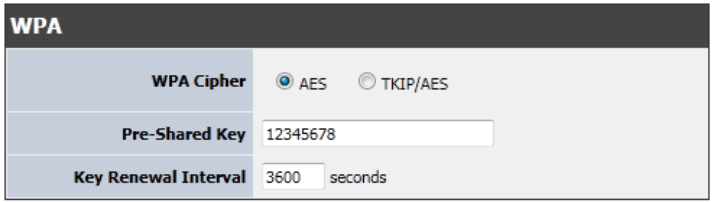
Note: *It is recommended to use 128-bit because it is more secure to use a key that consists of more characters.*

- **Key 1-4**
  - This is where you enter the password or key needed for a computer to connect to the router wirelessly
  - You can define up to 4 passwords or 4 keys. Only one key can be active at a given time. Most users simply define one key.
  - Choose a key index 1, 2, 3, or 4 and enter the key.
  - When connecting to the router, the client must match both the password and the Key number. (e.g. if you have activated Key 2 with a password of 12345, then the client must select: Key 2 (entering Key 1, 3, or 4 will block the ability to connect) and enter password 12345)

Selecting WPA-PSK, WPA2-PSK, or WPA2-PSK Mixed (WPA2-PSK recommended):



The following section outlines options when selecting PSK (Preshared Key Protocol),

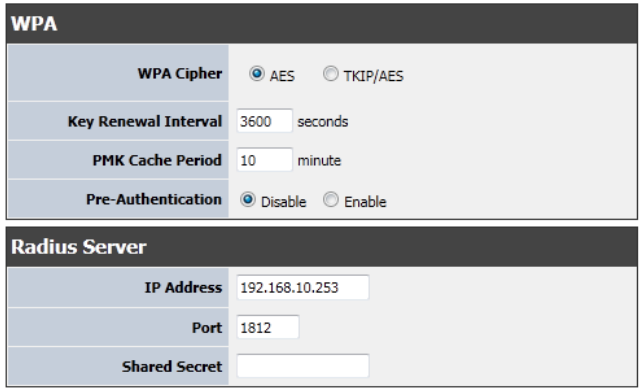
- Select a Cipher Type. When selecting **WPA-PSK** security, it is recommended to use **TKIP.**
- When selecting **WPA2-PSK Mixed** security, it is recommended to use **AES.**
- When selecting **WPA2-PSK** security, it is recommended to use **AES**.

Create your Wireless security Pres-Shared Key (password or key):

- **Passphrase** – Enter the passphrase.
  - **This is the password or key that is used to connect your computer to this router wirelessly**
- **Confirmed Passphrase** – Re-enter the passphrase.

Note: *8-63 alphanumeric characters (a,b,C,?,*, /,1,2, etc.)*

Selecting WPA, WPA2, or WPA2Mixed:



The following section outlines options when selecting EAP (Extensive Authentication Protocol), **EAP** (Extensible Authentication Protocol) is also called Remote Authentication Dial-In User Service or RADIUS.

Note: *EAP requires an external RADIUS server, PSK only requires you to create a passphrase.*

- **Cipher Type**
  - When selecting **WPA** security, it is recommended to use **TKIP.**
  - When selecting WPA-Auto security, it is recommended to use AES.
  - When selecting WPA2 security, it is recommended to use AES.
- **Key Renewal Interval**
  - Set the renewal key interval based on seconds.
- **PMK Cache Period**
  - Set the cache period based on minutes
- **Pre-Authentication**
  - Enable or disable pre-authentication of your wireless encryption
- **Radius Server:**- Configure the RADIUS server settings.
  - **IP:** Enter the IP address of the RADIUS server. (e.g. *192.168.10.250)*
  - **Port:** Enter the port your RADIUS server is configured to use for RADIUS authentication.

  Note: *It is recommended to use port 1812.*
  - **Shared Secret:** Enter the shared secret used to authorize your router with your RADIUS server.

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Connect wireless devices to your router

A variety of wireless network devices can connect to your wireless network such as:

- Gaming Consoles
- Internet enabled TVs
- Network media players
- Smart Phones
- Wireless Laptop computers
- Wireless IP cameras

Each device may have its own software utility for searching and connecting to available wireless networks, therefore, you must refer to the User's Manual/Guide of your wireless client device to determine how to search and connect to this router's wireless network.

See the "Appendix" on page 49 for general information on connecting to a wireless network.

Connect wireless devices using WPS

WPS (Wi-Fi Protected Setup) is a feature that makes it easy to connect devices to your wireless network. If your wireless devices support WPS, you can use this feature to easily add wireless devices to your network.

Note: *You will not be able to use WPS if you set the SSID Broadcast setting to Disabled.*

There are two methods the WPS feature can easily connect your wireless devices to your network.

- Push Button Configuration (PBC) method
  - o RECOMMENDED Hardware Push Button method–with an external button located physically on your router and on your client device
  - o WPS Software/Virtual Push Button - located in router management page
- PIN (Personal Identification Number) Method - located in router management page

Note: *Refer to your wireless device documentation for details on the operation of WPS.*

Recommended Hardware Push Button (PBC) Method

Note: *It is recommended that a wireless key (passphrase or password) is created before connecting clients using the PBC method. If no wireless key is defined when connecting via PBC, the router will automatically create an encryption key that is 64 characters long. This 64 character key will then have to be used if one has to connect computers to the router using the traditional connection method.*

To add a wireless device to your network, simply push the WPS button on the wireless device you are connecting(consult client device User's Guide for length of time), then push and hold the WPS button located on your router for 3 seconds and release it. A blue LED on your router WPS button will flash indicating that the WPS setup process has been activated on your router. (See "Product Hardware Features" on page 5).

For connecting additional WPS supported devices, repeat this process for each additional device.

PBC (Software/Virtual Push Button)

Wireless >WiFi Protected Setup

In addition to the hardware push button located physically on your router, the router management page also has push button which is a software or virtual push button you can click to activate WPS on your router.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Wireless** and click on **WPS**.
3. To add a wireless device to your network, simply the push the WPS button on the wireless device (consult wireless device's User's Guide for length of time), you are connecting, then in your router management page next to **Push Button Configuration**, click **Configure via PBC**.

PIN (Personal Identification Number)

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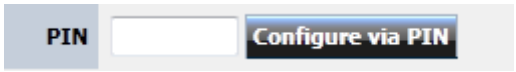
Wireless >WiFi Protected Setup

If your wireless device has WPS PIN (typically an 8-digit code printed on the wireless device product label or located in the wireless device wireless software utility), you can use this method.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Wireless** and click on **WPS**.
3. Next to **PIN**, enter the WPS PIN of the wireless device you are connecting and click **Configure via PIN**.



Note: *You may need to initiate the WPS PIN on your wireless device first when using this method. Refer to your wireless device documentation for details on the operation of WPS.*

Basic 2.4GHz wireless settings

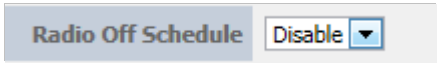
Wireless 2.4GHz > Basic

This section outlines available management options under the Basic Wireless sub tab.

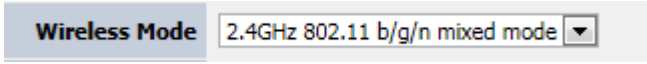
1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Wireless 2.4GHz** and click on **Basic**.
3. To save changes to this section, click **Apply** when finished.

- **Radio On/Off**
  - On turns on the wireless networking on your router (by default it is enabled).
  - Off turns off wireless networking on your router.

  Note: *It is recommended to leave the wireless setting to* ***On*** *unless you do not plan on connecting any wireless computers or devices to your network.*



- **Radio Off Schedule:** You can schedule a time of when you would like to turn off the wireless radio of your network. Please see "Set schedules" section on page 33).



- **Wireless Mode:** Select the appropriate mode for your network.
  - **2.4GHz 802.11b/g/n mixed mode** – Select this mode for the best compatibility. This mode allows older 802.11b and 802.11g wireless devices to connect to the router in addition to newer 802.11n devices.
  - **2.4GHz 802.11b/g mixed mode** – This mode only allows devices to connect to the router using older and slow 802.11b or 802.11g technology and it thereby reduces the router's maximum speed to 54Mbps (typically not recommended).
  - **2.4GHz 802.11n only mode** – This mode only allows newer 802.11n devices to connect to your router. This mode does ensure the highest speed and security for your network, however if you have older 802.11g wireless clients, they will no longer be able to connect to this router.
  - **2.4GHz 802.11g only mode** – This mode only allows devices to connect to the router using older and slow 802.11g technology (typically not recommended).
  - **2.4GHz 802.11b only mode** – This mode only allows devices to connect to the router using older and slow 802.11b technology (typically not recommended).

  Note: *Please check the specifications on your wireless devices for the highest wireless capability supported first before applying these settings. If you are unsure, it is recommended that you keep the default setting (2.4GHz 802.11b/g/n mixed mode) for the best compatibility.*

When applying the 802.11 mode setting, please keep in mind the following:

- Wireless devices that support 802.11n are backwards compatible and can connect wirelessly at 802.11g or 802.11b.
- Connecting at 802.11b or 802.11g will limit the capability of your 802.11n supported wireless devices from obtaining higher performance and data rates.
- Allowing 802.11b or 802.11g devices to connect to an 802.11n capable wireless network may degrade the wireless network performance below the higher performance and data rates of 802.11n.
- Wireless devices that only support 802.11b or 802.11g will not be able to connect to a wireless network that is set to 802.11n only mode.

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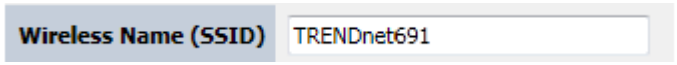
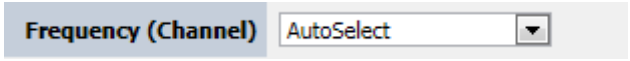
- Wireless devices that only support 802.11b will not be able to connect to a wireless network that is set to 802.11g only mode.



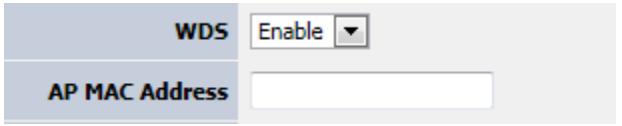
- **Wireless Name (SSID):** This acronym stands for Service Set Identifier and is the name of your wireless network. It differentiates your wireless network from others around you. By default, the router broadcast TRENDnet692 as the wireless network name. If you choose to change the SSID, change it to a name that you can easily remember.

- **Multiple SSID**: This router support additional SSID, you can set an additional of 3 SSSID for your wireless network.

- **Broadcast Network Name (SSID):**
  - **Enabled** allows wireless devices to search and discover your wireless network name (also called SSID) broadcasted by your router.
  - **Disabled** turns off the ability for wireless devices to find your network. It is still possible for wireless devices to be configured to connect to your wireless network.
    ***Note**: Setting this option to **Disabled**, will disable WPS functionality**.*

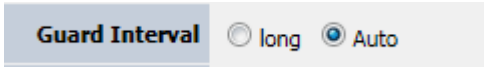


- **Frequency (Channel):** To manually set the channel on which the router will broadcast, uncheck **Auto Channel,** then click the drop-down list and select the desired Channel for wireless communication. The goal is to select the Channel that is least used by neighboring wireless networks.

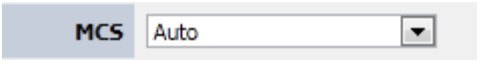


- **WDS:** This acronym stands for Wireless Distribution System and when enabled it creates a wireless bridge connection between your wireless router and an access point that supports WDS.
  - **AP MAC Address:** Enter the MAC address of the access point you would like the router to WDS to. You will also have to enter the MAC address of the router into the access point to establish the WDS or bridge connection. This wireless router supports up to 3 WDS connections.

- **Channel Width:** This setting only applies to wireless devices connecting at 802.11n. Select the appropriate channel width for your wireless network.
  - **20 MHz:** This mode operates using a single 20MHz channel for wireless devices connecting at 802.11n. This setting may provide more stability than Auto 20/40 MHz for connectivity in busy wireless environments where there are several wireless networks in the area.
  - **Auto 20/40 MHz:** This mode can automatically switch between using a single 20MHz channel or 40MHz (two 20MHz channels). When 40MHz is active, this mode is capable of providing higher performance only if the wireless devices support the 40MHz channel width. Enabling 20/40MHz typically results in substantial performance increases when connecting to an 802.11n client.



- **Guard Interval:** The purpose of the guard interval is to introduce immunity propagation delays, echoes and reflections to which digital data is normally sensitive to
  - **Long: Guard interval of 800nsec**.
  - **Auto: Router automatically set the interval**



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- **MCS:** Modulation and Coding Scheme is the value that determines the modulation, coding number of spatial channels.

- **Extension Channel:** Extension channel is used when Channel Bandwidth is set to "Auto 20/40MHz" and the channel being used is statically assigned. This allows you to statically assign the extended channel to use in 40MHz.

Basic 5GHz wireless settings

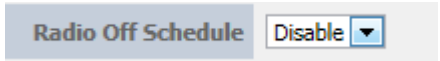
Wireless 5GHz > Basic

This section outlines available management options under the Basic Wireless sub tab.

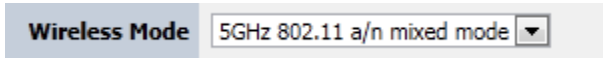
1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Wireless** 5GHz and click on **Basic**.
3. To save changes to this section, click **Apply** when finished.

- **Radio On/Off**
  - On turns on the wireless networking on your router (by default it is enabled).
  - Off turns off wireless networking on your router.

  Note: *It is recommended to leave the wireless setting to* ***On*** *unless you do not plan on connecting any wireless computers or devices to your network.*



- **Radio Off Schedule:** You can schedule a time of when you would like to turn off the wireless radio of your network. Please see "Set schedules" section on page 33).



- **Wireless Mode:** Select the appropriate mode for your network.
  - **2.4GHz 802.11a/n mixed mode** – Select this mode for the best compatibility. This mode allows older 802.11a wireless devices to connect to the router in addition to newer 802.11n devices.
  - **2.4GHz 802.11a only mode** – This mode only allows devices to connect to the router using 802.11n technology.

  Note: *Please check the specifications on your wireless devices for the highest wireless capability supported first before applying these settings. If you are unsure, it is recommended that you keep the default setting (5GHz 802.11a/n mixed mode) for the best compatibility.*

When applying the 802.11 mode setting, please keep in mind the following:

- Wireless devices that support 802.11n are backwards compatible and can connect wirelessly at 802.11a.
- Connecting at 802.11a will limit the capability of your 802.11n supported wireless devices from obtaining higher performance and data rates.
- Allowing 802.11a devices to connect to an 802.11n capable wireless network may degrade the wireless network performance below the higher performance and data rates of 802.11n.
- Wireless devices that only support 802.11a will not be able to connect to a wireless network that is set to 802.11n only mode.

.

- **Wireless Name (SSID):** This acronym stands for Service Set Identifier and is the name of your wireless network. It differentiates your wireless network from others around you. By default, the router broadcast TRENDnet692 as the wireless network name. If you choose to change the SSID, change it to a name that you can easily remember.

- **Multiple SSID**: This router support additional SSID, you can set an additional of 3 SSSID for your wireless network.

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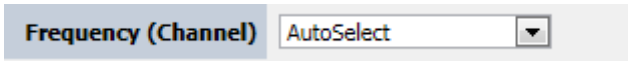
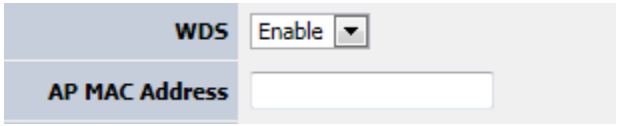
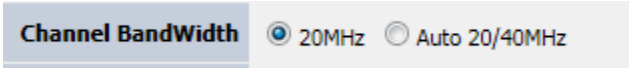
- **Broadcast Network Name (SSID):**
  - **Enabled** allows wireless devices to search and discover your wireless network name (also called SSID) broadcasted by your router.
  - **Disabled** turns off the ability for wireless devices to find your network. It is still possible for wireless devices to be configured to connect to your wireless network.
    ***Note**: Setting this option to **Disabled**, will disable WPS functionality.*



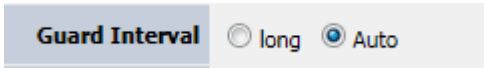
- **Frequency (Channel):** To manually set the channel on which the router will broadcast, uncheck **Auto Channel,** then click the drop-down list and select the desired Channel for wireless communication. The goal is to select the Channel that is least used by neighboring wireless networks.



- **WDS:** This acronym stands for Wireless Distribution System and when enabled it creates a wireless bridge connection between your wireless router and an access point that supports WDS.
  - **AP MAC Address:** Enter the MAC address of the access point you would like the router to WDS to. You will also have to enter the MAC address of the router into the access point to establish the WDS or bridge connection. This wireless router supports up to 3 WDS connections.



- **Channel Width:** This setting only applies to wireless devices connecting at 802.11n. Select the appropriate channel width for your wireless network.
  - **20 MHz:** This mode operates using a single 20MHz channel for wireless devices connecting at 802.11n. This setting may provide more stability than Auto 20/40 MHz for connectivity in busy wireless environments where there are several wireless networks in the area.
  - **Auto 20/40 MHz:** This mode can automatically switch between using a single 20MHz channel or 40MHz (two 20MHz channels). When 40MHz is active, this mode is capable of providing higher performance only if the wireless devices support the 40MHz channel width. Enabling 20/40MHz typically results in substantial performance increases when connecting to an 802.11n client.



- **Guard Interval:** The purpose of the guard interval is to introduce immunity propagation delays, echoes and reflections to which digital data is normally sensitive to
  - **Long: Guard interval of 800nsec**.
  - **Auto: Router automatically set the interval**

- **MCS:** Modulation and Coding Scheme is the value that determines the modulation, coding number of spatial channels.

- **Extension Channel:** Extension channel is used when Channel Bandwidth is set to "Auto 20/40MHz" and the channel being used is statically assigned. This allows you to statically assign the extended channel to use in 40MHz.

Steps to improve wireless connectivity

There are a number of factors that can impact the range of wireless devices. Follow these tips to help improve your wireless connectivity:

1. Keep the number of obstructions to a minimum. Each obstruction can reduce the range of a wireless device. Position the wireless devices in a manner that will minimize the amount of obstructions between them.

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a. For the widest coverage area, install your router near the center of your home, and near the ceiling, if possible.
b. Avoid placing the router on or near metal objects (such as file cabinets and metal furniture), reflective surfaces (such as glass or mirrors), and masonry walls.
c. Any obstruction can weaken the wireless signal (even non-metallic objects), so the fewer obstructions between the router and the wireless device, the better.
d. Place the router in a location away from other electronics, motors, and fluorescent lighting.
e. Many environmental variables can affect the router's performance, so if your wireless signal is weak, place the router in several locations and test the signal strength to determine the ideal position.

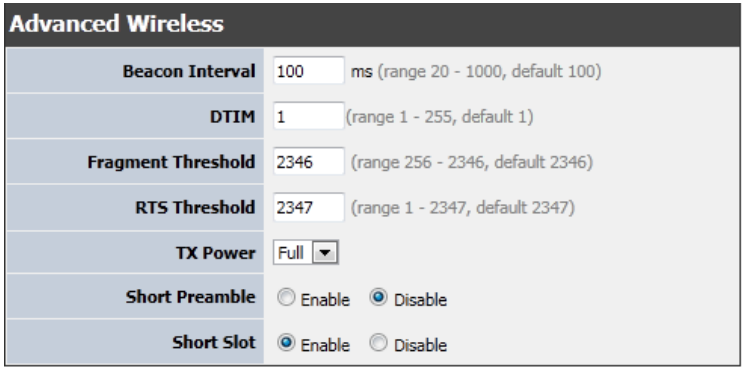
2. Building materials can have a large impact on your wireless signal. In an indoor environment, try to position the wireless devices so that the signal passes through less dense material such as dry wall. Dense materials like metal, solid wood, glass or even furniture may block or degrade the signal.
3. Antenna orientation can also have a large impact on your wireless signal. Use the wireless adapter's site survey tool to determine the best antenna orientation for your wireless devices.
4. Interference from devices that produce RF (radio frequency) noise can also impact your signal. Position your wireless devices away from anything that generates RF noise, such as microwaves, radios and baby monitors.

If possible, upgrade wireless network interfaces (such as wireless cards in computers) from older wireless standards to 802.11n. If a wirelessly networked device uses an older standard, the performance of the entire wireless network may be slower. If you are still experiencing low or no signal consider repositioning the wireless devices or installing additional access points.

Advanced wireless settings

Wireless > Advanced

These settings are advanced options that can be configured to change advanced wireless broadcast specifications. It is recommended that these settings remain set to their default values unless you are knowledgeable about the effects of changing these values. Changing these settings incorrectly can degrade performance.



- **Beacon Interval:** A beacon is a management frame used in wireless networks that transmitted periodically to announce the presence and provide information about the router's wireless network. The interval is the amount time between each beacon transmission.

  Default Value:100 milliseconds (range: 25-1000)

- **DTIM:** A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages. When the wireless router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Wireless clients detect the beacons and awaken to receive the broadcast and multicast messages. The default value is 1. Valid settings are between 1 and 255.
- **Fragment Threshold:** Wireless frames can be divided into smaller units (fragments) to improve performance in the presence of RF interference and at the limits of RF coverage. Fragmentation will occur when frame size in bytes is greater than the Fragmentation Threshold. This setting should remain at its default value of 2346 bytes. Setting the Fragmentation value too low may result in poor performance.
- **RTS Threshold** – The Request To Send (RTS) function is part of the networking protocol. A wireless device that needs to send data will send a RTS before sending the data in question. The destination wireless device will send a response called Clear to Send (CTS). The RTS Threshold defines the smallest data packet size allowed to initiate the RTS/CTS function. Default Value: 2346 (range: 256-2346)
- **TX Burst:** Allows the wireless Router to deliver better throughput in the same period and environment in order to increase speed.

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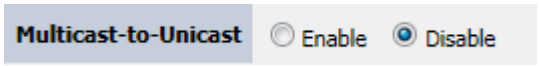
- **Short Preamble:** Using a short (400ns) guard interval can increase throughput. However, it can also increase error rate in some installations, due to increased sensitivity to radio-frequency reflections. Select the option that works best for your installation.



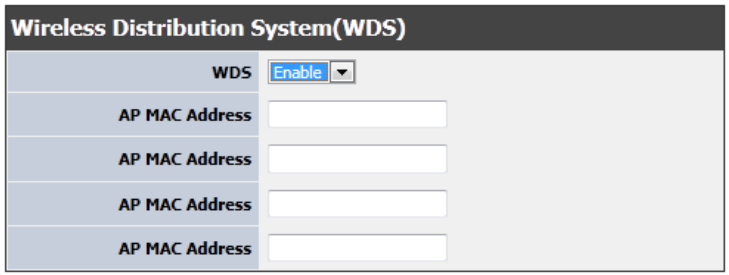
- **Multicast-to-Unicast:** Some applications require multicast communication (also called IP multicast which is the delivery of information to a specific group of computers or devices in a single transmission) typically used in media streaming applications. Enable this feature when using application that requires multicast traffic.

Wireless Distribution System (WDS)

Wireless > Basic

WDS or Wireless Distribution System allows your router to establish a wireless bridge connection to another access point. To use this feature the access point you want to connect has to also support WDS mode. This feature is available on both 2.4GHz and 5GHz wireless bands. Below steps are similar for either bands.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on the wireless band you would like to configure (**Wireless 2.4GHz** or **5GHz**) and click on **Basic**.
3. Select Enable in the Wireless Distribution System section.



3. Enter the MAC address of the access point you want to establish a wireless bridge connection with.
4. Log into your access point and enter the MAC address of your router. Please see the access point's user manual for more information on how to configure WDS mode.
5. To save changes to this section, click **Apply** when finished.

Access Control Filters

Access control basics

Advanced > Access Control

Port Range and Service Block

Advanced > Access Control

You may want to block computers or devices on your network access to specific ports (used or required by a specific application) to the Internet.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advance**, click on **Access Control.**

3. Select **Enable** to enable all access controls

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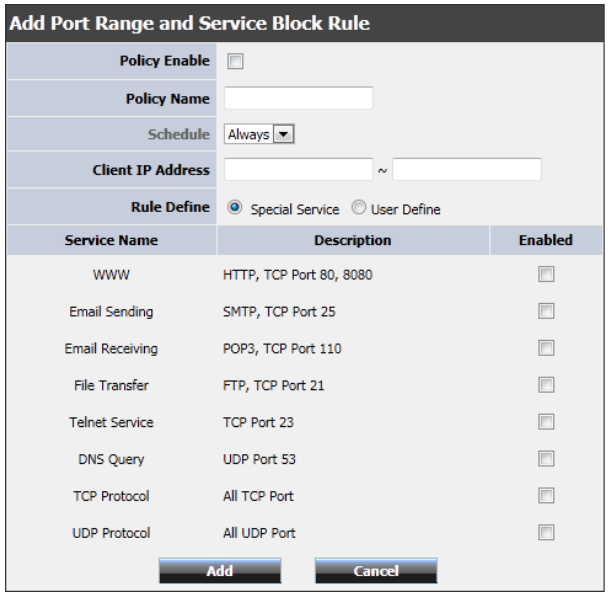


4. Review the settings under **Port Range and Service Block Rule** section

- **Enabled:** Selecting **Enable** turns on the filter
- **Policy Name:** Enter a name for the Protocol/IP Filter.
- **Schedule:** Select the defined schedule you would like to have the rule to be applied, see "Set schedules" section on page 33.
- **IP Range** – Enter the IP address or IP address range to apply the protocol/IP filter. (e.g. *192.168.10.20-192.168.10.20* or *192.168.10.20-192.168.10.30)*.

  Note: *The filter will not be applied to IP addresses outside of the range specified.*
- **Rule Define**: Select a predefined rule you would like to apply or click User Define to manually set the rule.

5. Click **Add** to save settings and **Save Status** on the top of the page to apply settings.

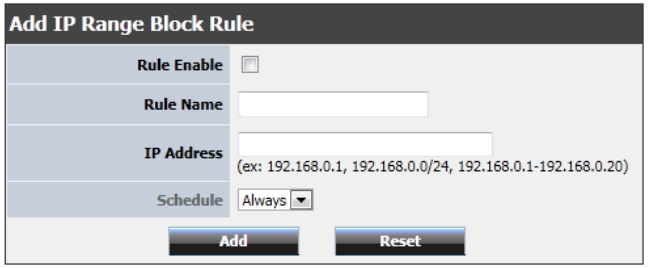
IP Address Filters

Advanced > Access Control

You may want to block certain IP addresses access to your network.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advance**, click on **Access Control.**

3. Select **Enable** to enable all access controls



4. Review the settings under **IP Range Block** section

- **Rule Enable:** Selecting **Enable** turns on the filter
- **Rule Name:** Enter a name for the Protocol/IP Filter.
- **IP Address:** Enter the IP address or IP address range to apply the protocol/IP filter. (e.g. *192.168.10.20-192.168.10.20* or *192.168.10.20-192.168.10.30)*.
- **Schedule:** Select the defined schedule you would like to have the rule to be applied, see "Set schedules" section on page 33).

5. Click **Add** to save settings and **Save Status** on the top of the page to apply settings.

URL Filters

Advanced > Access Control

You may want to allow or block computers or devices on your network access to specific websites (e.g. *www.trendnet.com, etc.)*, also called URLs (Uniform Resource Locators). You may also enter a keyword (e.g. instead of complete URL to generally allow or block computers or devices access to websites that may contain the keyword in the URL or on the web page.

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1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advance**, click on **Access Control.**

3. Select **Enable** to enable all access controls

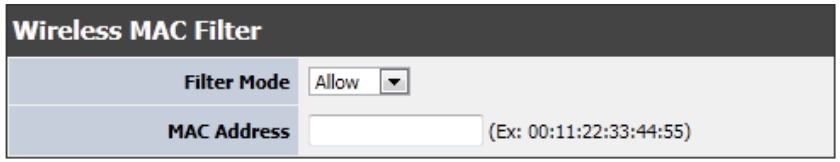
4. Review the settings under Add Webs URL Filter section
   - **Rule Enable:** Selecting **Enable** turns on the filter
   - **Rule Name:** Enter a name for the Protocol/IP Filter.
   - **URL:** Enter the Website/URL/domain (e.g.www.trendnet.com) or keyword (e.g. trendnet) to allow or block access and click Add to add this to the domains list. The entry will be listed below. Repeat for each additional website or keyword added.
   - **Schedule:** Select the defined schedule you would like to have the rule to be applied, see Set schedules" section on page 33).
5. Click **Add** to save settings and **Save Status** on the top of the page to apply settings.

MAC Filters

Wireless > Security

Every network device has a unique, 12-digit MAC (Media Access Control) address. Using MAC filters, you can allow or deny specific computers and other devices from using this router's wireless network.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Wireless**, click on **Security.**



3. Review the MAC Filter options.
   - **Filter Mode:** Select the mode applied to t listed MAC addresses.
     - o **Allow** computers/devices with MAC addresses listed below to access the local network, web management, and the Internet.
     - o **Deny** computers/devices with MAC addresses listed below to access the local network, web management, and the Internet

   Note: *MAC filter can be configured to allow access to the listed MAC address and deny all others unlisted or vice versa. The recommended function is to choose to only allow access to the MAC addresses listed and deny all others unlisted because it is easier to determine the MAC addresses of devices in your network then to determine which MAC addresses you do not want to allow access.*
4. Click **Apply** to save settings

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Advanced Router Setup

Access your router management page

Note: *Your router management page http://192.168.10.1 is accessed through the use of your Internet web browser (e.g. Internet Explorer, Firefox, Chrome, Safari, Opera) and will be referenced frequently in this User's Guide.*

1. Open your web browser (e.g. Internet Explorer, Firefox, Safari, Chrome, or Opera) and go to http://192.168.10.1. Your router will prompt you for a user name and password.

2. Enter the default user name and password and then click **Login**.

   Default User Name: **admin**

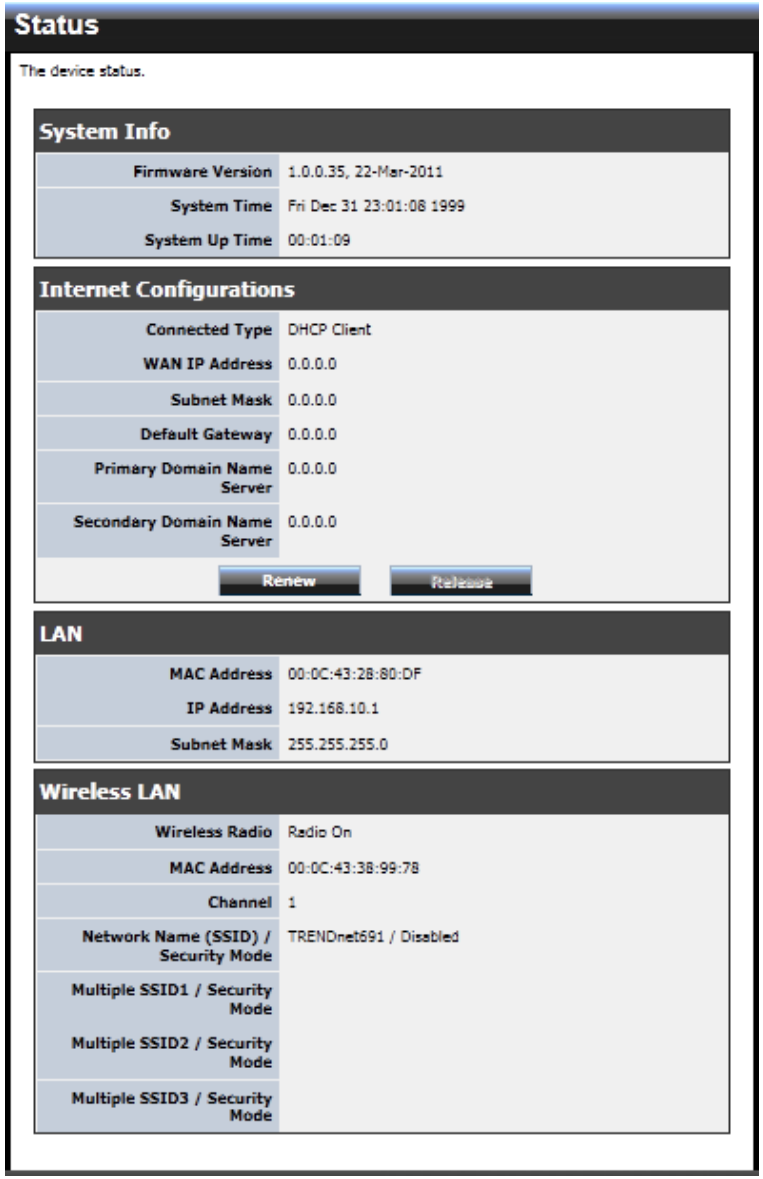
   Default Password: **admin**

Using the Configuration Menu

Whenever you want to configure your TEW-692GR, you can access the Configuration Menu by opening the Web-browser and typing in the IP Address of the TEW-692GR.

- Open the Web browser.
- Type in the current **IP Address** of the AP (i.e. http://192.168.10.1)
- Type **admin** in the **User Name** field.
- The **Password** is **admin**.
- Click **Login In.**

When you log into the unit the initial screen you will see is the status page that provides system information and network configurations.



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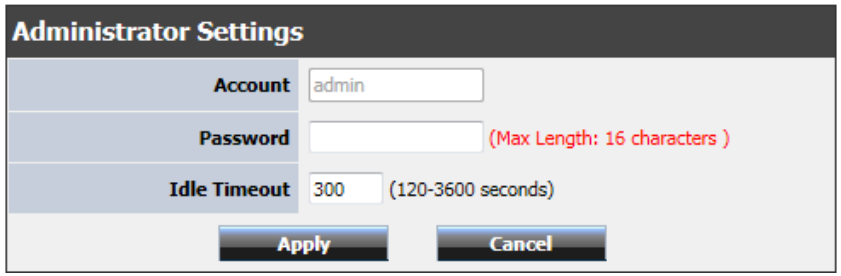
Change your router login password

Administrator > Management

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **Management**.



3. Under the **Administrator Settings** section, in the **Password** field, enter the new password
4. Enter the idle timeout time (in seconds) of when you would want to have log in prompt to appear.
5. To save changes, click **Apply**.

Note: *If you change the router login password, you will need to access the router management page using the User Name "admin" and the new password instead of the default password "admin".*

Change your router device name

Administrator > Management

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **Management**.

3. Under the **Device Name Settings** section, in the **Device Name** field, enter the new device name to show up on your network as reference to the router.
4. To save changes, click **Apply**.

Change your router URL

Administrator > Management

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **Management**.

3. Under the **Device URL Setting** section, in the **Device URL** field, enter the URL to be used on the device. This can be used to easily access the router's management page without knowing the IP address of the router
4. To save changes, click **Apply**.

Manually configure your Internet connection

Network > WAN Setting

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Network**, and click on **WAN Setting**.

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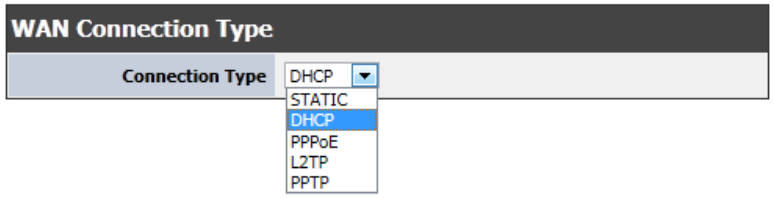


3. In the **Connection Type** drop-down list, click the type of Internet connection provided by your Internet Service Provider (ISP).
4. Complete the fields required by your ISP.
5. Complete the optional settings only if required by your ISP.
6. To save changes, click **Apply**.

Note: *If you are unsure which Internet connection type you are using, please contact your ISP.* ***Note:*** *If your ISP requires a host name to be specified, you can specify it under Main > LAN & DHCP Server, in the* ***Host Name*** *field. To save changes, click* ***Apply*** *at bottom of the page.*

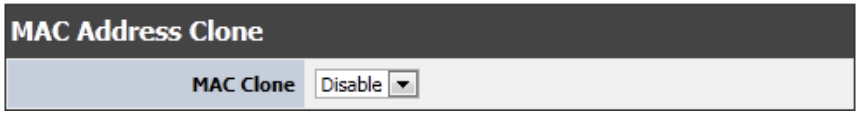
Clone a MAC address

Network > WAN Setting

On any home network, each network device has a unique MAC (Media Access Control) address. Some ISPs register the MAC address of the device (usually a router or a computer) connected directly to the modem. If your computer MAC address is already registered with your ISP and to prevent the re-provisioning and registration process of a new MAC address with your ISP, then you can clone the address (assign the registered MAC address of your previous device to your new router). If you want to use the MAC address from the previous device (computer or old router that directly connected to the modem, you should first determine the MAC address of the device or computer and manually enter it into your router using the clone MAC address feature.

Note: *For many ISPs that provide dynamic IP addresses automatically, typically, the stored MAC address in the modem is reset each time you restart the modem. If you are installing this router for the first time, turn your modem before connecting the router to your modem. To clear your modem stored MAC address, typically the procedure is to disconnect power from the modem for approximately one minute, then reconnect the power. For more details on this procedure, refer to your modem's User Guide/Manual or contact your ISP.*

1. Log into your router management page (see "Access your router management page on page 26").
2. Click on **Main**, and click on **WAN**.
3. Under your Internet connection settings, find the **MAC Address** section shown below.



4. Select **Enabled** in the pull down menu and manually enter the 12-digit MAC address of your old router.
5. To save changes, click **Apply**.

Change your router IP address

Network > LAN Setting

In most cases, you do not need to change your router IP address settings. Typically, the router IP address settings only needs to be changed, if you plan to use another router in your network with the same IP address settings, if you are connecting your router to an existing network that is already using the IP address settings your router is using, or if you are experiencing problems establishing VPN connections to your office network through your router.

Note: *If you are not encountering any issues or are not faced with one of the cases described above or similar, it is recommended to keep your router IP address settings as default.*

Default Router IP Address: 192.168.10.1

Default Router Network: 192.168.10.0 / 255.255.255.0

1. Log into your router management page (see "Access your router management page on page 26").
2. Click on **Network**, and click on **LAN Setting**.

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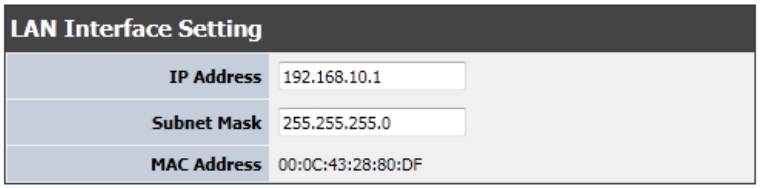


3. In **LAN Interface Setting** section enter the router IP address settings.

- **IP Address** – Enter the new router IP address. (e.g. *192.168.200.1*)

Subnet Mask – Enter the new router subnet mask. (e.g. *255.255.255.0*)

- **MAC Address**: The MAC address of your router

Note: *The DHCP address range will change automatically to your new router IP address settings so you do not have to change the DHCP address range manually to match your new router IP address settings.*

4. To save changes, click **Apply**.

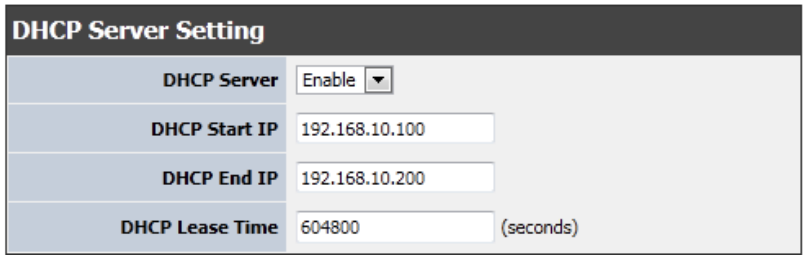
Note: *You will need to access your router management page using your new router IP address to access the router management page. (e.g. Instead of using the default http://192.168.10.1 using your new router IP address will use the following format using your new router IP address http://(new.router.ipaddress.here) to access your router management page.*

Set up the DHCP server on your router

Network > LAN Setting

Your router can be used as a DHCP (Dynamic Host Configuration Protocol) server to automatically assign an IP address to each computer or device on your network. The DHCP server is enabled by default on your router. If you already have a DHCP server on your network, or if you do not want to use your router as a DHCP server, you can disable this setting. It is recommended to leave this setting enabled.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Network**, and click on **LAN Setting**.



3. Review the DHCP Server settings.

- **DHCP Server:** Enable or Disable the DHCP server.
- **Start IP:** Changes the starting address for the DHCP server range. (e.g.*192.168.10.20)*
- **End IP:** Changes the last address for the DHCP server range. (e.g. *192.168.10.30)*

Note: *The Start IP and End IP specify the range of IP addresses to automatically assign to computers or devices on your network.*

- **DHCP Lease Time** – Click the drop-down list to select the lease time.

Note: *The DHCP lease time is the amount of time a computer or device can keep an IP address assigned by the DHCP server. When the lease time expires, the computer or device will renew the IP address lease with the DHCP server, otherwise, if there is no attempt to renew the lease, the DHCP server will reallocate the IP address to be assigned to another computer or device.*

4. To save changes, click **Apply**.

Set up DHCP reservation

Network > LAN Setting

DHCP (Dynamic Host Configuration Protocol) reservation (also called Static DHCP) allows your router to assign a fixed IP address from the DHCP server IP address range to a specific device on your network. Assigning a fixed IP address can allow you to easily keep track of the IP addresses used on your network by your computers or devices for future reference or configuration such as virtual server (also called port forwarding, see "Virtual Server" on page 34) or special applications (also called port triggering, see "Special Applications" on page 35).

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Network**, and click on **LAN Setting**.

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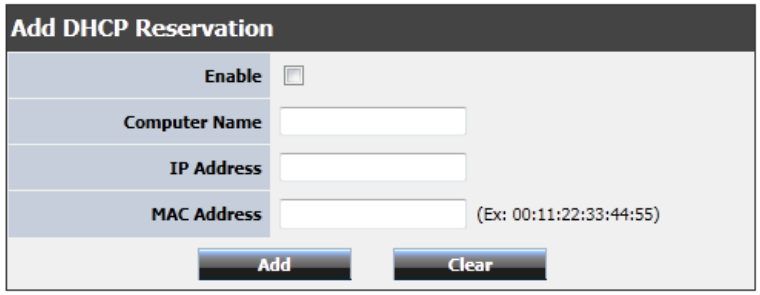

3. Under **Add DHCP Reservation** section, review the DHCP reservation settings.

- **Enable:** Enable or Disable the DHCP reservation feature.
- **Computer Name:** Enter a name for the reservation.
- **IP Address:** Enter the IP address to assign to the reservation. (e.g. 192.168.10.101)

  Note: *You cannot assign IP addresses outside of the DHCP range. The IP address is required to be within the DHCP IP address range (Start IP & End IP).*
- **MAC Address:** Enter the MAC (Media Access Control) address of the computer or network device to assign to the reservation. (e.g. *00:11:22:AA:BB:CC)*
- **Add** - Saves the reservation.
- **Edit** – Saves changes to an existing reservation.
- **Delete** – Removes an existing reservation.

DHCP Reservations List – You can view the list of reservations for computers or devices that have been created in this list.

To modify an existing reservation, click on the entry in the Static DHCP list. When selected, the entry will be highlighted. .

Configuring IPv6 on your router

Network > IPv6 Setting

IPv6 is the latest Internet Protocol (IP) that uses a new addressing system that offers more addresses that the current IPv4 standard. Your router supports this latest technology and can be configured with the following connection types. Stateless DHCPv6, Stateful DHCPv6, Link-Local, Static, PPPoE, and 6to4. Please consult with your local ISP (Internet Service Provider) to obtain information in regard to the IPv6 connection type.

Note: *In order to avoid any software conflict, please be sure to remove or disable any PPPoE client software on your computer when using the PPPoE connection type.*

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Network**, and click on **IPv6 Settings**.

3. Review the IPv6 settings.

- **Static:** Please select this connection type if your ISP provides you with a set of IPv6 static addresses. Configuration settings, such as IPv6 address, Default Gateway, Primary DNS Server, and Secondary DNS Server, and Subnet Prefix Length are required and will be entered manually. Please contact your local ISP for all relevant information.
  - **Use Link-Local Address:**To facilitate the use of link-local address for communications within the segment of a local network
  - **WAN IPv6 Address:** When using Link-Local Address, your address will be displayed here. Otherwise, your local ISP will assign this address to you
    - **Subnet Prefix Length:** Please leave the default at 64
    - **Default Gateway:** Your local ISP will assign this address to you
    - **Primary DNS Server:** Your local ISP will assign this address to you
    - **Secondary DNS Server:** Your local ISP will assign this address to you

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- **LAN IPv6 Address:** This will be the IPv6 address assigned to your router
- **LAN Prefix Length:** LAN Prefix Length will be displayed here
- **LAN IPv6 Link-Local Address: I**Pv6 Link-Local Address will be displayed here

o **Autoconfiguration Type:** Set up IPv6 Autoconfiguration in this section in order to have IPv6 addresses assigned to the clients on the local area network. The options are Stateless Auto, Stateless DHCPv6, DHCPv6 (Stateful). Stateless Auto: When connected to an IPv6 network utilizing ICMPv6 (Internet Control Message Protocol version 6) router discovery messages, IPv6 hosts will be configured automatically. Stateless DHCPv6: A stateless DHCP server will only provide configuration information to the nodes and will rely on ICMPv6 (Internet Control Message Protocol version 6) router discovery messages to assign IPv6 addresses. DHCPv6(Stateful): Dynamic Host Configuration Protocol for IPv6. Stateless address autoconfiguration for IPv6 can be used to acquire access in an IPv6 network, however, it is generally recommended to use DHCPv6 instead to assign addresses, name servers and other configuration information to the clients.

- **Stateless DHCPv6:** TEW-692GR WAN port on an IPv6 network can use the router ICMPv6 RA to crate global IPv6 address dynamically and use DHCPv6 client to obtain configuration information such as a list of DNS recursive name servers and search list.
  - **Manually configure DNS:**When enabled, users will be given the options to manually enter DNS servers
  - **Primary DNS Server:** Your local ISP will assign this address to you
  - **Secondary DNS Server:** Your local ISP will assign this address to you
  - **Enable DHCP-PD:**Enable the DHCP Prefix Delegation which is used to assign a network address prefix to a user site, configuring the user's router with the prefix to be used for each LAN. This is one of the methods for delegating IPv6 address prefixes to an IPv6 subscriber's network (or "site").
  - **LAN IPv6 Address:** Please enter the IPv6 Address here
  - **LAN Prefix Length:** LAN Prefix Length will be displayed here
  - **LAN IPv6 Link-Local Address:** IPv6 Link-Local Address will be displayed here
  - **Autoconfiguration Type:** Set up IPv6 Autoconfiguration in this section in order to have IPv6 addresses assigned to the clients on the local area network. The options are Stateless Auto, Stateless DHCPv6, DHCPv6 (Stateful**). Stateless Auto:** When connected to an IPv6 network utilizing ICMPv6 (Internet Control Message Protocol version 6) router discovery messages, IPv6 hosts will be configured automatically. Stateless DHCPv6: A stateless DHCP server will only provide configuration information to the nodes and will rely on ICMPv6 (Internet Control Message Protocol version 6) router discovery messages to assign IPv6 addresses. **DHCPv6 (Stateful):** Dynamic Host Configuration Protocol for IPv6. Stateless address autoconfiguration for IPv6 can be used to acquire access in an IPv6 network, however, it is generally recommended to use DHCPv6 instead to assign addresses, name servers and other configuration information to the clients.

- **DHCPv6 (Stateful):** TEW-692GR WAN port use DHCPv6 client to obtain IP addresses and other configuration information from stateful DHCPv6 server. Dynamic state information about each individual client is stored and centrally managed on the DHCPv6 server.
  - **Manually configure DNS:** When enabled, users will be given the options to manually enter DNS servers
  - **Primary DNS Server:** Your local ISP will assign this address to you
  - **Secondary DNS Server:** Your local ISP will assign this address to you
  - **Enable DHCP-PD:** Enable the DHCP Prefix Delegation which is used to assign a network address prefix to a user site, configuring the user's router with the prefix to be used for each LAN. This is one of the methods for delegating IPv6 address prefixes to an IPv6 subscriber's network (or "site").
  - **LAN IPv6 Address:** Please enter the IPv6 Address here
  - **LAN Prefix Length:** LAN Prefix Length will be displayed here
  - **LAN IPv6 Link-Local Address:** IPv6 Link-Local Address will be displayed here
  - **Autoconfiguration Type:** Set up IPv6 Autoconfiguration in this section in order to have IPv6 addresses assigned to the clients on the local area network. The options are Stateless Auto, Stateless DHCPv6, DHCPv6 (Stateful). **Stateless Auto:** When connected to an IPv6 network utilizing ICMPv6 (Internet Control Message Protocol version 6) router discovery messages, IPv6 hosts will be configured automatically. **Stateless DHCPv6:** A stateless DHCP server will only provide configuration information to the nodes and will rely on ICMPv6 (Internet Control Message Protocol version 6) router discovery messages to assign IPv6 addresses. **DHCPv6(Stateful):** Dynamic Host Configuration Protocol for IPv6. Stateless address autoconfiguration for IPv6 can be used to acquire access in an IPv6 network, however, it is generally recommended to use DHCPv6 instead to assign addresses, name servers and other configuration information to the clients.

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- **Link-Local:** The Link-local address is used by nodes and routers when communicating with neighboring nodes on the same link. This mode enables IPv6-capable devices to communicate with each other on the LAN side.
  - **LAN IPv6 Address:** Please enter the IPv6 Address here
  - **LAN IPv6 Link-Local Address:** IPv6 Link-Local Address will be displayed here
- **PPPoE:** Select this option if your ISP requires you to use a PPPoE (Point to Point Protocol over Ethernet) connection to IPv6 Internet. DSL providers typically use this option. This method of connection requires you to enter a Username and Password (provided by your Internet Service Provider) to gain access to the IPv6 Internet.
  - **PPPoE session:** The options are Shared with IPv4 or Create New Session. You can select to share IPv6 with IPv4 within a single PPPoE session or to create a seperate PPPoE session for IPv6 instead.
  - **User Name:** Please consult with your ISP for your login account information
  - **Password:** Please consult with your ISP for your login account information
  - **Verify Password:** Please enter your password again to verify it is correct
  - **Address Mode:** Please select Auto or Static. Address Mode (Auto): Select this option if the ISP's servers assign the router's WAN IPv6 address upon establishing a connection. Address Mode (Static): Select this option if your ISP has assigned a fixed IPv6 address. The ISP will provide the value for the IPv6 Address and Subnet Prefix Length.
  - **Use Default MTU Setting:** It is recommended to use the default MTU setting.
  - **MTU Setting:** Enter your MTU setting here when Default MTU Setting is disabled
  - **Manually configure DNS:** When enabled, users will be given the options to manually enter DNS servers
  - **Primary DNS Server:** Your local ISP will assign this address to you
  - **Secondary DNS Server:** Your local ISP will assign this address to you
  - **Enable DHCP-PD:** Normally this option is enabled in PPPoE mode. When enabled, this router will use ISP-provided IPv6 address prefix to configure this router's LAN port global IPv6 address and provide global address pool to LAN side PC when either stateless DHCPv6 or stateless Auto is enabled.
  - **LAN IPv6 Address:** Please enter the IPv6 Address here
  - **LAN Prefix Length:** LAN Prefix Length will be displayed here
  - **LAN IPv6 Link-Local Address:** IPv6 Link-Local Address will be displayed here
  - **Autoconfiguration Type:** Set up IPv6 Autoconfiguration in this section in order to have IPv6 addresses assigned to the clients on the local area network. The options are Stateless Auto, Stateless DHCPv6, DHCPv6 (Stateful). Stateless Auto: When connected to an IPv6 network utilizing ICMPv6 (Internet Control Message Protocol version 6) router discovery messages, IPv6 hosts will be configured automatically. Stateless DHCPv6: A stateless DHCP server will only provide configuration information to the nodes and will rely on ICMPv6 (Internet Control Message Protocol version 6) router discovery messages to assign IPv6 addresses. DHCPv6(Stateful): Dynamic Host Configuration Protocol for IPv6. Stateless address autoconfiguration for IPv6 can be used to acquire access in an IPv6 network, however, it is generally recommended to use DHCPv6 instead to assign addresses, name servers and other configuration information to the clients.
- **6to4:** 6to4 is provided as a transition for migrating from IPv4 to IPv6. It allows IPv6 packets to be transmitted over an IPv4 network through the automatic tunneling technology, and routes traffic between 6to4 and IPv6 networks.
  - **IPv6 to IPv4 Address:** IPv6 to IPv4 Address will be displayed here
  - **6to4 Relay:** Please use the closest 6to4 Relay server to allow 6to4 networks to communicate with native IPv6 networks
  - **Primary DNS Server:** Your local ISP will assign this address to you
  - **Secondary DNS Server:** Your local ISP will assign this address to you
  - **LAN IPv6 Address:** Please enter the IPv6 Address here
  - **LAN Prefix Length:** LAN Prefix Length will be displayed here
  - **LAN IPv6 Link-Local Address:** IPv6 Link-Local Address will be displayed here
  - **Autoconfiguration Type:** Set up IPv6 Autoconfiguration in this section in order to have IPv6 addresses assigned to the clients on the local area network. The options are Stateless Auto, Stateless DHCPv6, DHCPv6 (Stateful). Stateless Auto: When connected to an IPv6 network utilizing ICMPv6 (Internet Control Message Protocol version 6) router discovery messages, IPv6 hosts will be configured automatically. Stateless DHCPv6: A stateless DHCP server will only provide configuration information to the nodes and will rely on ICMPv6 (Internet Control Message Protocol version 6) router discovery messages to assign IPv6 addresses. DHCPv6(Stateful): Dynamic Host Configuration Protocol for IPv6. Stateless address autoconfiguration for IPv6 can be used to acquire access in an IPv6 network, however, it is generally recommended to use DHCPv6 instead to assign addresses, name servers and other configuration information to the clients.

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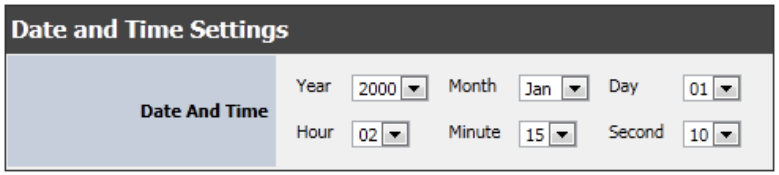
Set your router date and time

Main > Time

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **Time**.

3. Select **Enable NTP Server**, to use a NTP server for the time settings. Or you can manually set the time settings by not selecting **NTP Server** option.



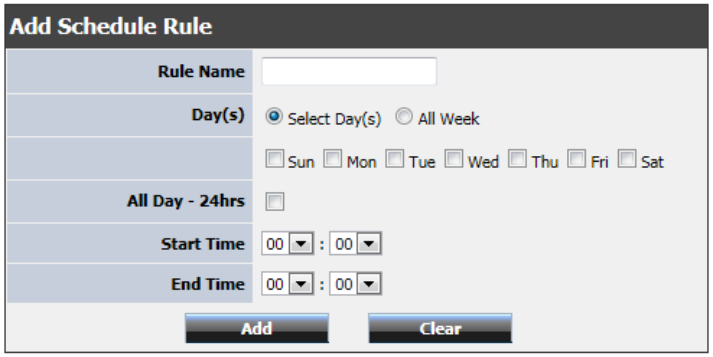
4. To manually set the time settings. Select from the pull down menu the year, month day and time you would like to apply on the router.
5. To save changes, click **Apply**.

Set schedules

Advanced > Schedule

Your router has features Virtual Server rules and Access Controls that can turn on or off through schedules.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **Time**.


Add Schedule Rule
Rule Name
Day(s) Select Day(s) All Week
Sun Mon Tue Wed Thu Fri Sat
All Day - 24hrs
Start Time 00 : 00
End Time 00 : 00
Add Clear

3. Review the Schedule settings.
   - **Rule Name:** Enter a name for the virtual server.
   - **Days:** Select the days you would like the rule to be applied or select **All Week** to enable the rule all week.
   - **All Day:** Select if you would like the rule to be applied through the day of the select days.
   - **Start/End Time:** Select the start and end time you would like the schedule to follow.
   - **Delete:** Removes an existing schedule.
   - **Edit:** Modifies an existing schedule.
4. To save changes, click **Add**.

QoS (Quality of Service)

Network > QoS

QoS involves prioritization of network traffic. QoS can be targeted at a network interface, toward a given server or router's performance, or in terms of specific applications.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Network**, and click on **QoS**.
3. Review the DHCP reservation settings.

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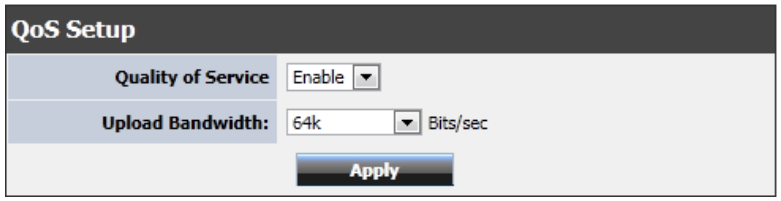

- **Quality of Service:** Enable or Disable the Quality DHCP reservation feature.
- **Bandwidth:** Select from the pull down menu Limit bandwidth of upload manually with 'User Defined' or set the bandwidth limit via drop-down menu (between 64Mbits ~ 230Mbits) per device on network.
- **IP Address** – Enter the IP address to assign to the reservation. (e.g. 192.168.10.101)

Open a device on your network to the Internet

This router can provide access to devices on your local area network to the Internet using the Virtual Server, Special Application, method (DMZ NOT recommended).

DMZ

Advanced > DMZ

You may want to expose a specific computer or device on your network to the Internet to allow anyone to access it. Your router includes the DMZ (Demilitarized Zone) feature that makes all the ports and services available on the WAN/Internet side of the router and forwards them to a single IP address (computer or network device) on your network. The DMZ feature is an easy way of allowing access from the Internet however, it is a very **insecure** technology and will open local area network to greater threats from Internet attacks.

It is strongly recommended to use **Virtual Server** (also called port forwarding, see "Virtual Server" on page 34) to allow access to your computers or network devices from the Internet.

Make the computer or network device (for which you are establishing a DMZ link) has a static IP address (or you can use the DHCP reservation feature to ensure the device has a fixed IP address) see "Set up DHCP reservation" on page 29. Signing up for a Dynamic DNS service (outlined in the DDNS section) will provide identification of the router's network from the Internet.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **DMZ**.

3. Select Enable in the **DMZ Settings** section.
4. Enter the IP address you assigned to the computer or network device to expose to the Internet.
5. To save changes, click **Apply**.

Virtual Server

Advanced > Virtual Server

Virtual Server (also called port forwarding) allows you to define specific ports (used or required by a specific application) and forward them to a single IP address (a computer or device) on your network. Using this feature is more secure compared to using DMZ (see "DMZ" on page 34) in which DMZ forwards all ports instead of only specific ports used by an application. An example would be forwarding a port to an IP camera (TRENDnet IP cameras default to HTTP TCP port 80 for remote access web requests) on your network to be able to view it over the Internet. To open several ports please refer to Gaming section on page 36.

Since most ISPs constantly change your home IP address, to be able to access the Virtual Server port(s) from the Internet it is recommended to setup Dynamic DNS service (see "Indentify your Network on the Internet" section on page 40).

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Virtual Server**.

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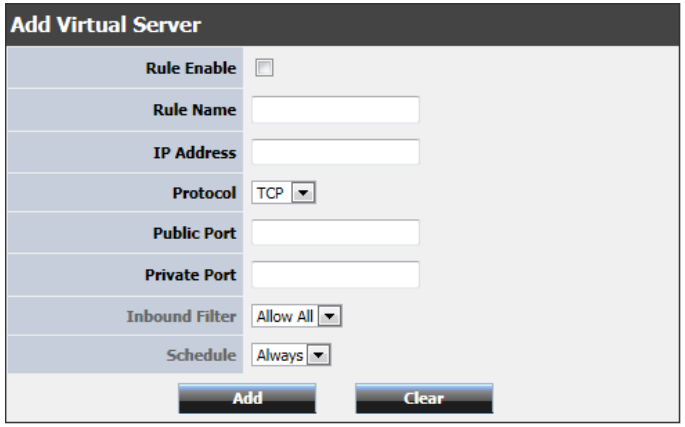

3. Review the virtual server settings.

- **Rule Enabled:** Selecting **Enabled** turns on the virtual server and selecting **Disabled** turns off the virtual server.
- **Rule Name:** Enter a name for the virtual server.
- **IP Address:** Enter the IP address of the device to forward the port (e.g. *192.168.10.101)*.
- **Protocol**: Select the protocol required for your device. **TCP**, **UDP**, or you can select **Both** to choose both TCP & UDP (recommended).

  Note: *Please refer to the device documentation to determine which ports and protocols are required.* You should assign a static IP address to the device or use DHCP reservation to ensure the IP address of the device does not change.
- **Public Port:** Enter the port number used to access the device from the Internet.
- **Private Port:** Enter the port number required by your device. Refer to the connecting device's documentation for reference to the network port(s) required.
- **Schedule:** Select the defined schedule you would like to have the rule to be applied. (see "Set schedules" section on page 33).

  Note: *The **Public Port** can be assigned a different port number than the **Private Port** (also known as port redirection), however it is recommended to use the same port number for both settings. Please refer to the device documentation to determine which ports and protocols are required.*
- **Add:** Saves a new virtual server entry.
- **Clear:** Discard changes to an existing virtual server.
- **Edit:** Modifies an existing virtual server.
- **Delete:** Removes an existing virtual server.

Example: To forward TCP port 80 to your IP camera

1. Setup DynDNS service (see "Indentify your Network on the Internet" section on page 40).
2. Access TRENDnet IP Camera management page and forward Port 80 (see product documentation)
3. Make sure to configure your network/IP camera to use a static IP address or you can use the DHCP reservation feature (see "Set up DHCP reservation" on page 29).

   Note: *You may need to reference your camera documentation on configuring a static IP address.*
4. Log into your router management page (see "Access your router management page" on page 26).
5. Click on **Advanced**, and click on **Virtual Server**.
6. Click **Enabled** to turn on this virtual server.
7. Next to **Name**, you can enter another name for the virtual server, otherwise, leave the default name.
8. Next to **LAN Server**, enter the IP address assigned to the camera. (e.g. *192.168.10.101*)
9. Next to **Protocol**, make sure **TCP** is selected in the drop-down list.
10. The **Private Port** and **Public Port**, make sure port number **80** is configured for both settings.
11. To save the changes, click **Add.**

Special Applications

Advanced > Special Application

Special applications (also called port triggering) is typically used for online gaming applications or communication applications that require a range of ports or several ports to be dynamically opened on request to a device on your network. The router will wait for a request on a specific port or range of ports (or trigger port/port range) from a device on your network and once a request is detected by your router, the router will forward a single port or multiple ports (or incoming port/port range) to the device on your network. This feature is not typically used as most devices and routers currently use UPnP (Universal Plug and Play) to automatically configure your router to allow access for applications. See "Enable/disable UPnP on your router" on page 39.

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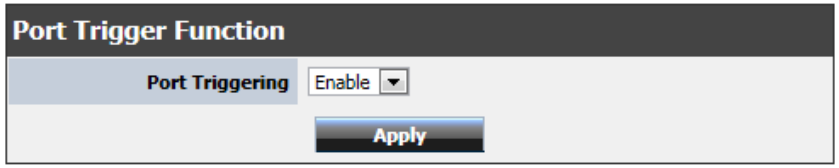
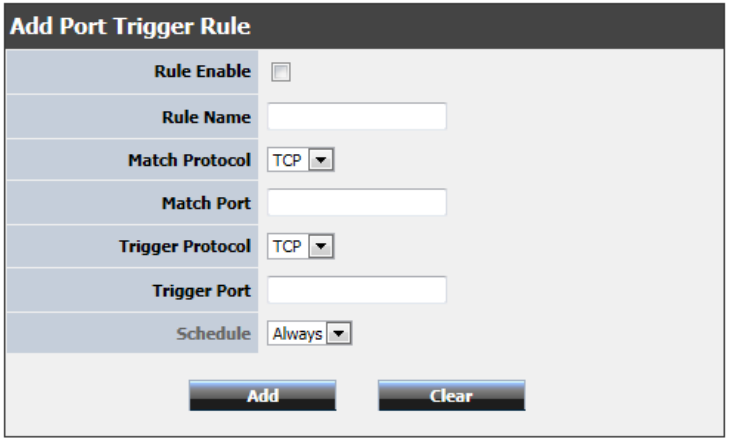
Note: *Please refer to the device documentation to determine if your device supports UPnP first, before configuring this feature.*

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Special Application**.



3. Select **Enable** under **Port Triggering Function**.



4. Review the special application settings.
   - **Rule Enable:** Selecting **Enabled** turns on the special application.
   - **Rule Name:** Enter a name for the special application.
   - **Match Protocol:** Select the protocol to be forwarded to the device. **TCP, UDP**, or you can select **Both** to choose both TCP and **UDP.**
   - **Match Port:** Enter the ports or port range to be forwarded to the device. (e.g. *2000-2038,2069,2081,2200-2210).*
   - **Trigger Protocol:** Select the protocol requested by the device. **TCP, UDP**, or you can select **Both** to choose both TCP and **UDP.**
   - **Trigger Port:** Enter the ports or port range requested by the device. (e.g. *554-554 or 6112-6112).*

     Note: *Please refer to the device documentation to determine which ports and protocols are required.*
   - **Schedule:** Select the defined schedule you would like to have the rule to be applied, see "Set schedules" section on page 33.
   - **Add:** Saves a new special application.
   - **Delete:** Removes an existing special application.
   - **Edit:** Modifies an existing special application.
   - **Cancel:** Discard changes to an existing special application.

Gaming

Advanced > Gaming

Gaming allows you to define multiple ports (used or required by a specific application or game) and forward them to a single IP address (a computer or device) on your network. Using this feature is more secure compared to using DMZ (see "DMZ" section on page 34) in which DMZ forwards all ports instead of only specific ports used by an application. Since most ISPs constantly change your home IP address, to be able to access the Virtual Server port(s) from the Internet it is recommended to setup Dynamic DNS service (see "Indentify your Network on the Internet" section on page 40).

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Gaming**.

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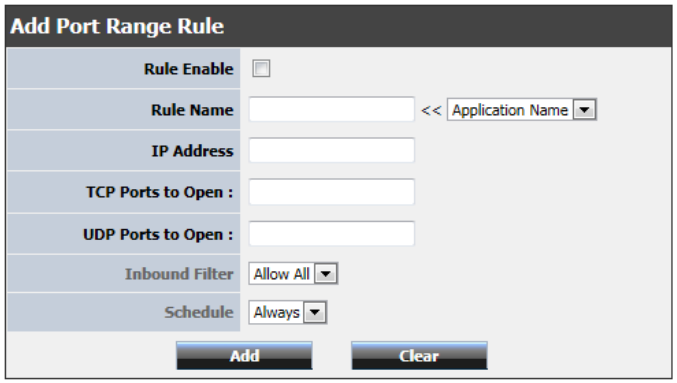


3. Review the virtual server settings.

- **Rule Enabled:** Selecting **Enabled** turns on the virtual server
- **Rule Name:** Enter a name for the virtual server or select predefined rules in the pull down menu.
- **IP Address:** Enter the IP address of the device to forward the port (e.g. *192.168.10.101)*.
- **TCP Ports to Open**: Enter the TCP port you would like to set.
- **UDP Ports to Open**: Enter the UDP port you would like to set.

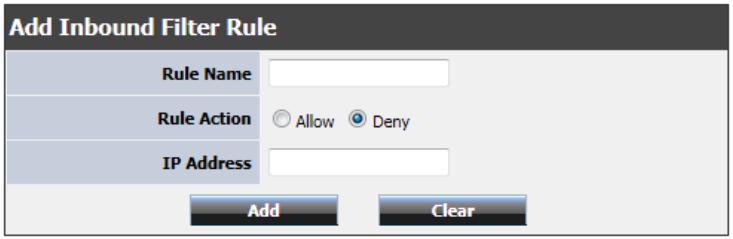
  Note: *Please refer to the device documentation to determine which ports and protocols are required.* You should assign a static IP address to the device or use DHCP reservation to ensure the IP address of the device does not change.
- **Inbound Filter:** Select the inbound filter you have applied to reflect on the applied rule.
- **Schedule:** Select the defined schedule you would like to have the rule to be applied, see "Set schedules" section on page 33).
- **Add:** Saves a new virtual server entry.
- **Clear:** Discard changes to an existing virtual server.
- **Edit:** Modifies an existing virtual server.
- **Delete:** Removes an existing virtual server.

Inbound Filter

Advanced > Inbound Filter

Inbound filters allow you to control data going through your router from the Internet. The feature allows you to control devices from your network through IP address.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Inbound Filter**.



3. Review the inbound filer settings.

- **Rule Enabled:** Selecting **Enabled** turns on the virtual server
- **Action:** Select which rule you would like to apply, Allow or Deny data.
- **IP Address:** Enter the IP address of the device to forward the port (e.g. *192.168.10.101)*.

Add static routes to your router

Advanced > Routing

You may want set up your router to route computers or devices on your network to other local networks through other routers. Generally, different networks can be determined by the IP addressing assigned to those networks. Generally speaking and for the case of an example, your network may have 192.168.10.x IP addressing and another network may have 192.168.20.x IP addressing and because the IP addressing of these two networks are different, they are separate networks. In order to communicate between the two separate networks, static routing needs to be configured. Below is an example diagram where routing is needed for devices and computers on your network to access the other network.

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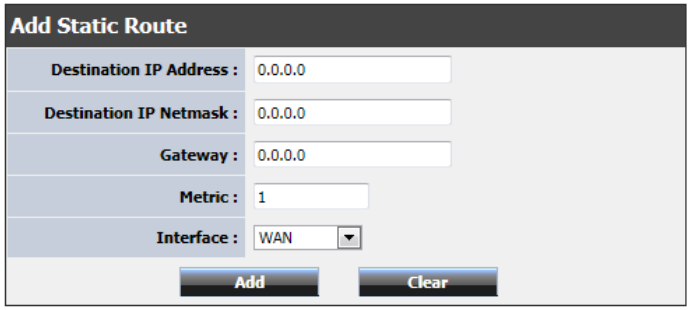
Note: *Configuring this feature assumes that you have some general networking knowledge.*

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Routing**.



3. Review the static route settings.
   - **Destination IP Address:** Enter the IP network address of the destination network for the route. (e.g. *192.168.20.0*)
   - **Destination IP Netmask:** Enter the subnet mask of the destination network for the route.(e.g. *255.255.255.0*)
   - **Gateway:** Enter the gateway to the destination network for the route. (e.g. *192.168.10.2*)
   - **Metric:** Enter the metric or priority of the route. The metric range is *1-15*, the lowest number *1* being the highest priority. (e.g. *1*)
   - **Interface:** Click the drop-down list and select the Interface on your router where the route is active. (e.g. *LAN*)
   - **Add:** Saves the static route.

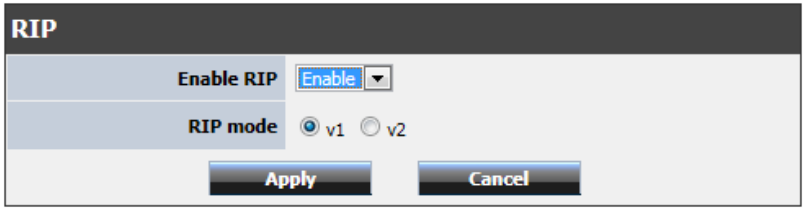
Enable dynamic routing on your router

Advanced > Routing

You may want to setup your router to route computers or devices on your network to other local networks through other routers. If other routers support dynamic routing such as RIP (Routing Information Protocol), you can enable this feature on your router to automatically learn the required routes to reach those networks. It is required that the same dynamic routing protocol and version is also enabled on the other routers in order your router and the other routers to exchange information about the network.

Note: *Configuring this feature assumes that you have some general networking knowledge.*

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Routing**.



3. Select **Enabled** in the pull down menu and the appropriate dynamic routing protocol and version communicate with other routers.
   - **RIP mode:** Allows your router to send out network information to other routers so other routers can dynamically build routes to your network.
     - **RIP 1** - Sends out routing information to other routers using the RIP version 1 protocol.
     - **RIP 2** – Sends out routing information to other routers using the RIP version 2 protocol (recommended if supported by both devices).
4. Click **Apply** to save the changes or click **Cancel** to discard the changes.

Enable Application Level Gateway (ALG)

Advanced > ALG

You may want to setup your router to allow computers to use certain protocols or services on your network. Application Level Gateway or ALG allows you to simply enable or disables these services.

Note: *Default all services are enabled.*

1. Log into your router management page (see "Access your router management page" on page 26).

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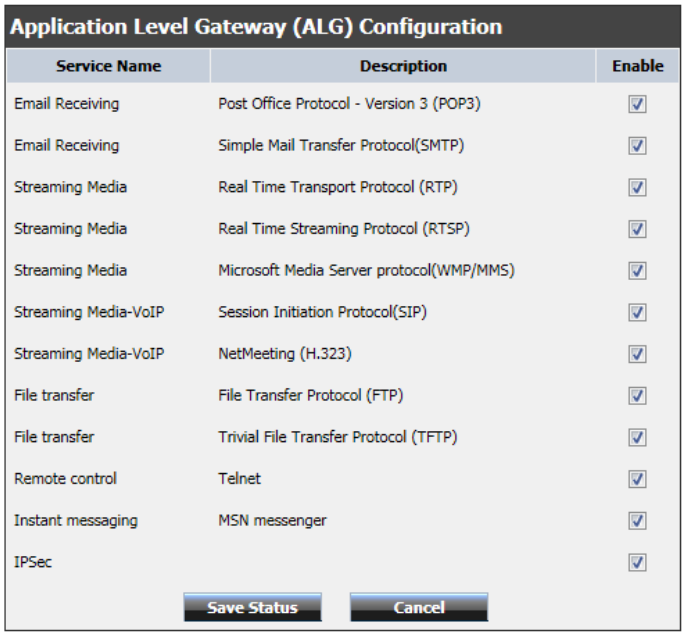
2. Click on **Advanced**, and click on **ALG**.
3. View and select which service you would like to enable or disable.



- **RIP mode:** Allows your router to send out network information to other routers so other routers can dynamically build routes to your network.
- **Email Receiving (POP3):** Allows POP3 protocol to be used through your router
- **Email Receiving (SMTP):** Allows SMTP protocol to be used through your router
- **Streaming Video (RTP):** Allows RTP video protocol to be used through your router
- **Streaming Media (RTSP):** Allows STMP video protocol to be used through your router
- **Streaming Media (WMP/MMS):** Allows WMP/MMS protocol to be used through your router
- **Streaming Media-VoIP (SIP):** Allows SIP protocol to be used through your router
- **Streaming Media-VoIP (H.323):** Allows H.323 protocol to be used through your router
- **File Transfer (FTP):** Allows FTP protocol to be used through your router
- **File Transfer (TFTP):** Allows TFTP protocol to be used through your router
- **Remote control (Telnet):** Allows Telnet protocol to be used through your router
- **Instant messaging (MSN):** Allows MSN instant messaging protocols to be used through your router
- **IPSec:** Allows IPSec VPN passthrough to be used through your router

Enable/disable UPnP on your router

Advanced > Advanced Network

UPnP (Universal Plug and Play) allows devices connected to a network to discover each other and automatically open the connections or services for specific applications (e.g. instant messenger, online gaming applications, etc.) UPnP is enabled on your router by default to allow specific applications required by your computers or devices to allow connections through your router as they are needed.

1. Log into your router management page (see "Access your router management page on page 26").
2. Click on **Advanced**, and click on **Advanced Network**.

3. Next to **UPnP**, select **Enable** or **Disable** on the pull down menu to turn the feature on or off on your router.

   Note: *It is recommended to leave this setting enabled, otherwise, you may encounter issues with applications that utilize UPnP in order allow the required communication between your computers or devices and the Internet.*

4. To save changes, click **Apply**.

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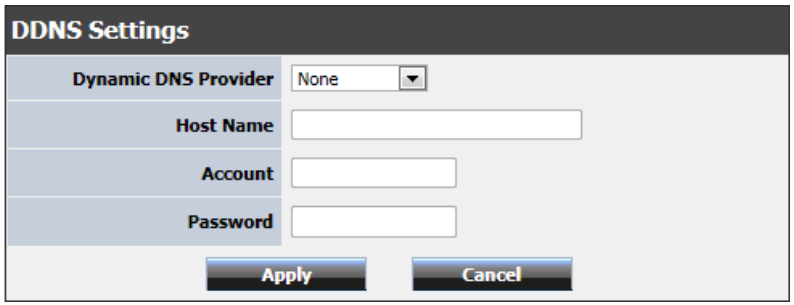
Identify your network on the Internet

Administrator > Management

Since most ISPs constantly change your home IP address, providing access to devices on your home or small office Local Area Network (such as IP Cameras) from the Internet requires setting up a Dynamic DNS service and entering the parameters into this management area. Dynamic DNS services allow your router to confirm its location to the given Dynamic DNS service, thereby providing the Dynamic DNS service with the ability to provide a virtual fixed IP address for your network. This means that even though your ISP is always changing your IP address, the Dynamic DNS service will be able to identify your network using a fixed address—one that can be used to view home IP Camera and other devices on your local area network.

> ***Note:*** *First, you will need to sign up for one of the DDNS service providers listed in the* ***Server Address*** *drop-down list.*

1. Sign up for one of the DDNS available service providers list under **Server Address**. (e.g. *dyndns.com,* etc.)
2. Log into your router management page (see "Access your router management page" on page 26).
3. Click on **Administrator** and click on **Management**.



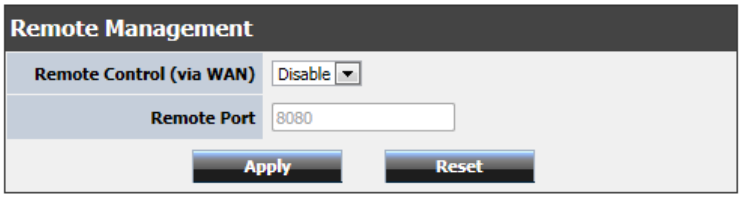
4. In the Dynamic DNS Provider drop-down list, select the provider you selected, and enter your information in the fields.
   - Host Name: Personal URL provided to you by your Dynamic DNS service provider (e.g. www.trendnet.dyndns.biz)
   - User Name: The user name needed to log in to your Dynamic DNS service account
   - Password: This is the password to gain access to Dynamic DNS service (NOT your router or wireless network password) for which you have signed up to.
5. To save changes, click **Apply**.

Allow remote access to your router

Management > Remote Management

You may want to make changes to your router from a remote location such at your office or another location while away from your home.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **Management**.



3. On the Remote Management section, select **Enabled** in the **Remote Control** setting.
   - **Port:** It is recommended to leave this setting as 8080.

     Note: *If you have configured port 8080 for another configuration section such as virtual server or special application, please change the port to use. (Recommended port range 1024-65534)*
4. To save changes, click **Apply**.

Router Maintenance & Monitoring

Reset your router to factory defaults

Administrator > Settings Management

You may want to reset your router to factory defaults if you are encountering difficulties with your router and have attempted all other troubleshooting. Before you reset your

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router to defaults, if possible, you should backup your router configuration first, see "Backup and restore your router configuration settings" on page 41.

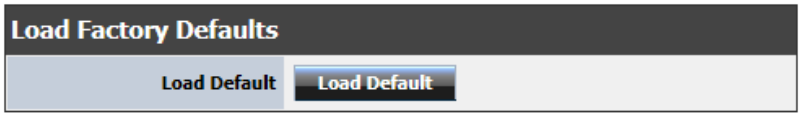
There are two methods that can be used to reset your router to factory defaults.

- **Reset Button** – Located on the side panel of your router, see "Product Hardware Features" on page 5. Use this method if you are encountering difficulties with accessing your router management page.

  OR

- **Router Management Page**

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator** and click on **Settings Management**.



3. Under **Load Factory Default**, click **Load Default**. When prompted to confirm this action, click **OK**.

Router Default Settings

Administrator User Name	admin
Administrator Password	admin
Router IP Address	192.168.10.1
Router Subnet Mask	255.255.255.0
DHCP Server IP Range	192.168.10.101-192.168.199
Wireless	Enabled

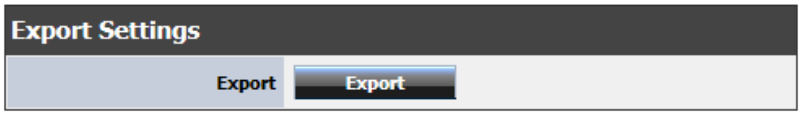
Backup and restore your router configuration settings

Administrator > Settings Management

You may have added many customized settings to your router and in the case that you need to reset your router to default, all your customized settings would be lost and would require you to manually reconfigure all of your router settings instead of simply restoring from a backed up router configuration file.

To back up your router configuration:

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator** and click on **Settings Management**.



3. Under **Export Settings** section, click **Export**.
4. Depending on your web browser settings, you may be prompted to save a file (specify the location) or the file may be downloaded automatically to the web browser settings default download folder. (Default Filename: *cfg.bin)*

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To restore your router configuration:

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator** and click on **Settings Management**.

3. Under **Import Settings**, next to **Settings file location**, depending on your web browser, click on **Browse** or **Choose File**.
5. A separate file navigation window should open.
6. Select the router configuration file to restore and click **Load**. (Default Filename: *cfg.bin*). If prompted, click **Yes** or **OK**.
7. Wait for the router to restore settings.

Reboot your router

Administrator > Settings Management

You may want to restart your router if you are encountering difficulties with your router and have attempted all other troubleshooting.

There are two methods that can be used to restart your router.

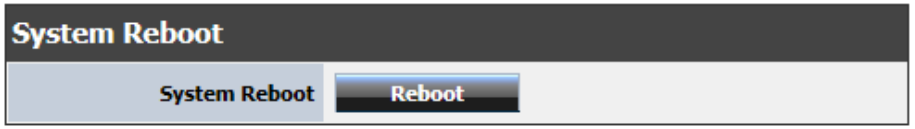
- **Turn the router off** for 10 seconds using the router On/Off switch located on the rear panel of your router, see "Product Hardware Features" on page 5.

  Use this method if you are encountering difficulties with accessing your router management page. This is also known as a hard reboot or power cycle.

  OR

- **Router Management Page** – This is also known as a soft reboot or restart.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator** and click on **Settings Management**.



3. Under **System Reboot** section, click **Reboot**.

Upgrade your router firmware

Administrator > Settings Management

TRENDnet may periodically release firmware upgrades that may add features or fix problems associated with your TRENDnet router model and version. To check if there is a firmware upgrade available for your device, please check your TRENDnet model and version using the link. http://www.trendnet.com/downloads/

In addition, it is also important to verify if the latest firmware version is newer than the one your router is currently running. To identify the firmware that is currently loaded on your router, log in to the router, click on the Administrator section and then on the Status. The firmware used by the router is listed at the top of this page. If there is a newer version available, also review the release notes to check if there were any new features you may want or if any problems were fixed that you may have been experiencing.

1. If a firmware upgrade is available, download the firmware to your computer.
2. Unzip the file to a folder on your computer.

Please note the following:

- Do not interrupt the firmware upgrade process. Do not turn off the device or press the Reset button during the upgrade.
- If you are upgrade the firmware using a laptop computer, ensure that the laptop is connected to a power source or ensure that the battery is fully charged.
- Disable sleep mode on your computer as this may interrupt the firmware upgrade process.
- Do not upgrade the firmware using a wireless connection, only using a wired network connection.

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- Any interruptions during the firmware upgrade process may permanently damage your router.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator** and click on **Upload Firmware**.

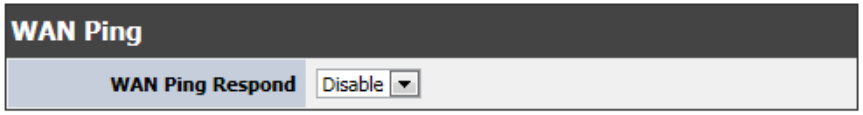
3. Depending on your web browser, in the **Upload Firmware** section, click **Browse** or **Choose File**.
5. Navigate to the folder on your computer where the unzipped firmware file (*.bin*) is located and select it.
6. Click **Upgrade**. If prompted, click **Yes** or **OK**.

Remotely check router status

Advanced > Advanced Network

For remote troubleshooting purposes, you may want to check your routers connectivity in a remote location. You can disable or enable your router to respond to ping request through the Internet.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Advanced**, and click on **Advanced Network**.



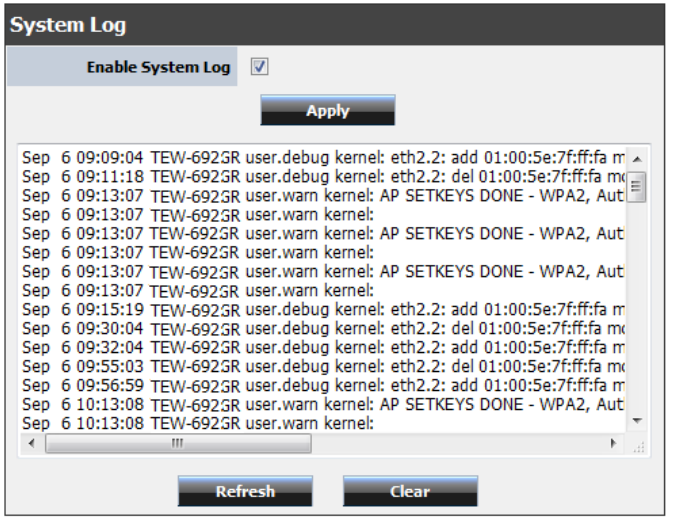
3. Next to **WAN Ping Respond**, select **Enable** or **Disable** on the pull down menu to turn the feature on or off on your router.

View your router log

Toolbox > View Log

Your router log can be used to obtain activity information on the functionality of your router or for troubleshooting purposes.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **System Log**.
3. Select **Enable System Log**.


System Log
Enable System Log
Apply
Sep 6 09:09:04 TEW-692GR user.debug kernel: eth2.2: add 01:00:5e:7f:ff:fa m
Sep 6 09:11:18 TEW-692GR user.debug kernel: eth2.2: del 01:00:5e:7f:ff:fa m
Sep 6 09:13:07 TEW-692GR user.warn kernel: AP SETKEYS DONE - WPA2, Aut
Sep 6 09:13:07 TEW-692GR user.warn kernel:
Sep 6 09:13:07 TEW-692GR user.warn kernel: AP SETKEYS DONE - WPA2, Aut
Sep 6 09:13:07 TEW-692GR user.warn kernel:
Sep 6 09:13:07 TEW-692GR user.warn kernel: AP SETKEYS DONE - WPA2, Aut
Sep 6 09:13:07 TEW-692GR user.warn kernel:
Sep 6 09:15:19 TEW-692GR user.debug kernel: eth2.2: add 01:00:5e:7f:ff:fa m
Sep 6 09:30:04 TEW-692GR user.debug kernel: eth2.2: del 01:00:5e:7f:ff:fa m
Sep 6 09:32:04 TEW-692GR user.debug kernel: eth2.2: add 01:00:5e:7f:ff:fa m
Sep 6 09:55:03 TEW-692GR user.debug kernel: eth2.2: del 01:00:5e:7f:ff:fa m
Sep 6 09:56:59 TEW-692GR user.debug kernel: eth2.2: add 01:00:5e:7f:ff:fa m
Sep 6 10:13:08 TEW-692GR user.warn kernel: AP SETKEYS DONE - WPA2, Aut
Sep 6 10:13:08 TEW-692GR user.warn kernel:
Refresh
Clear

Router Status

Check the router system information

Administrator > Status

You may want to check the system information of your router such as WAN (Internet) connectivity, wireless and wired network settings, router MAC address, and firmware version.

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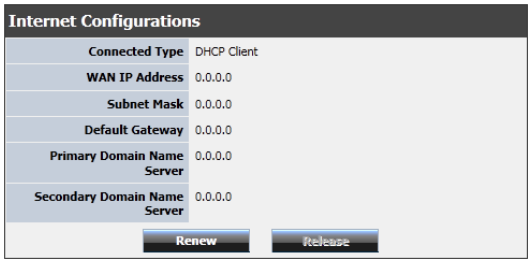
1. Log into your router management page (see "Access your router management page on page 26").
2. Click on **Administrator** and click on **Status**.

System Info

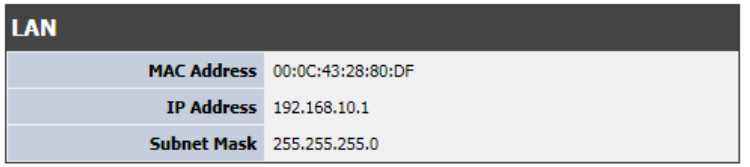
- **Firmware Version** – The current firmware version your router is running.
- **System Time:** The current time set on your router.
- **Router Up Time** – The duration your router has been running continuously without a restart/power cycle (hard or soft reboot) or reset.

Internet Configurations



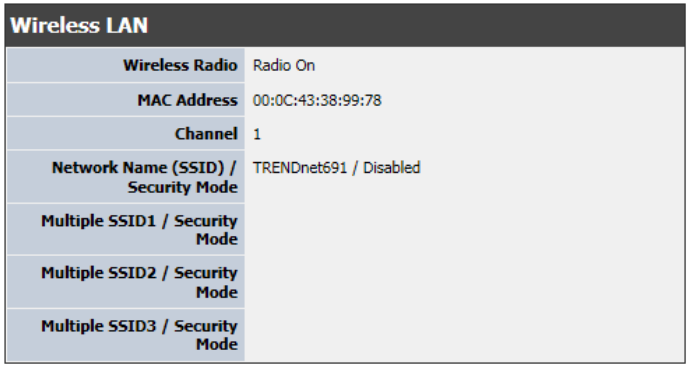
- **Connected Type:** The WAN connection type applied on your router.
- **IP Address** – The current IP address assigned to your router WAN port or interface configuration.
- **Subnet Mask** - The current subnet mask assigned to your router WAN port or interface configuration.
- **Default Gateway** – The current gateway assigned to your router WAN port or interface configuration.
- **DNS (Domain Name System)** – The current DNS address(es) assigned to your router port or interface configuration.
- **Renew:** Click this option to renew your WAN IP address.
- **Release:** Click this option to release the WAN IP address of your router.

LAN Information



- **MAC Address** – The current MAC address of your router's wireless or interface configuration.
- **IP Address** - Displays your router's current IP address.
- **Subnet Mask** – Displays your router's current subnet mask.

Wireless LAN


Wireless LAN
Wireless Radio Radio On
MAC Address 00:0C:43:38:99:78
Channel 1
Network Name (SSID) / Security Mode TRENDnet691 / Disabled
Multiple SSID1 / Security Mode
Multiple SSID2 / Security Mode
Multiple SSID3 / Security Mode

- **Wireless Radio:** The current state of your router's wireless signal.
- **MAC Address:** The MAC address of your router's wireless LAN or interface configuration.
- **Channel** – Displays the current wireless channel your router is operating.
- **Network Name (SSID)/ Security Mode:** Displays the current wireless network name assigned to your router and the wireless security applied to the SSID

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Dynamic DHCP List

Network > DHCP Client List

You can view the list of active lease entries for computers or devices that have been assigned IP addresses automatically from the DHCP server on your router.

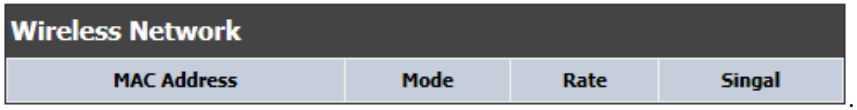
1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Network**, and click on **DHCP Client List**.

Wireless Station List

Wireless > Station List

You can view the list of active wireless devices currently connected to your router.

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Wireless**, and click on **Station List**

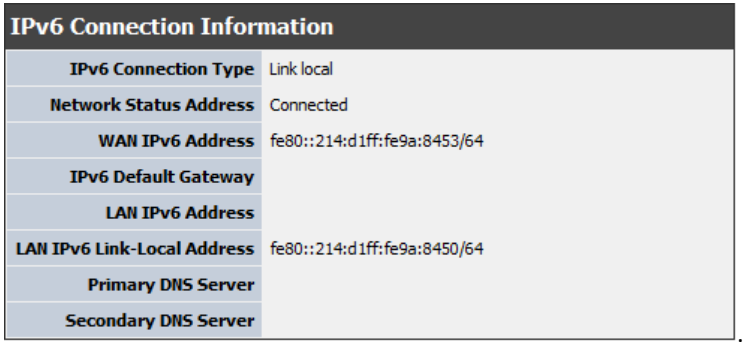


IPv6 Status

Administrator > IPv6 Status

You may want to check the IPv6 system information of your router for both WAN (Internet) connectivity and LAN (Local Area Network).

1. Log into your router management page (see "Access your router management page" on page 26).
2. Click on **Administrator**, and click on **IPv6 Status**



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Access Point Management Page Structure

Wizard

- Internet Setup Wizard
- Wireless Setup Wizard

Network

- WAN Setting
  - Clone MAC Address
- LAN Setting
  - DHCP Reseveration
- IPv6 Settings
- QoS
- DHCP Client List

Wireless 2.4GHz

- Basic
  - WDS
- Advanced
- Security
  - MAC Filter
- WPS
- Station List

Wireless 2.4GHz

- Basic
  - WDS
- Advanced
- Security
  - MAC Filter
- WPS
- Station List

Advanced

- DMZ
- Virtual Server
- Routing
- Access Control
  - Port /Service Filter
  - IP Filter
  - URL Filter
- Application Level Gateway (ALG)
- Special Applications
- Gaming
- Inbound Filter
- Schedule
- Advanced Network
  - UPnP
  - WAN Ping
  - Ping too

Administrator

- Management
  - Password
  - DDNS
  - Remote Management
- Upload Firmware
- Settings Management
  - Export Settings
  - Import Settings
  - Load Factory Defaults
  - Reboot
- Time
- System Log
- Status
- IPv6 Status

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Technical Specifications

Hardware	
Standards	Wired: IEEE 802.3 (10Base-T), IEEE 802.3u (100Base-TX), IEEE 802.3ab (1000Base-T) , 802.3az Wireless: IEEE 802.11b, IEEE 802.11g, IEEE 802.11n, 802.11a
LAN	4 x 10/100/1000Mbps Auto-MDIX port
WAN	1 x 10/100/1000Mbps Auto-MDIX port
WPS Button	Wi-Fi Protected Setup (WPS) connects with other WPS compliant devices
LED Indicator	Power, LAN 1-4, WAN, 2.4GHz Wireless, 5Ghz Wireless, WPS
Power Adapter	12V DC, 1A external power adapter
Power Consumption	9.6 watts (max)
Dimension (L x W x H)	163 x 156 x 26 mm (6.4 x 6.1 x 1 in)
Weight	175g (6.2 oz)
Temperature	Operation: 0°~ 40°C (32°F~ 104°F) Storage: -20°~ 60°C (-4°F~140 °F)
Humidity	Max. 90% (non-condensing)
Certifications	CE, FCC
Wireless	
Frequency	FCC: 2.412~2.462 GHz, 5.180~5.240 GHz, 5.725~5.850 GHz ETSI: 2.412~2.472 GHz, 5.150~5.250 GHz
Antenna	2.4GHz: 3 x 2dBi (internal) 5GHz: 3 x 3dBi (external fixed)
Modulation	OFDM: BPSK, QPSK, 16-QAM, 64-QAMDBPSK, DQPSK, CCK
Data Rate	802.11a: up to 54Mbps 802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 450Mbps (for both 2.4 & 5GHz)
Security	64/128-bit WEP, WPA/WPA2-PSK, WPA/WPA2-RADIUS
Access Control	MAC Address Filter (Up to 24 entries)
Output Power	802.11a: 14dBm (typical) 802.11b: 18dBm (typical) 802.11g: 15dBm (typical) 802.11n: 15dBm +/- 1 dBm (typical) (for 2.4 & 5GHz)
Receiving Sensitivity	802.11a: -70dBm (typical) @ 54Mbps 802.11b: -84dBm (typical) @ 11Mpbs 802.11g: -72dBm (typical) @ 54Mbps 802.11n: -66dBm +/- 1 dBm (typical) @ 450Mbps (for 2.4 & 5GHz)
Channels	2.4GHz: 1~11 (FCC), 1~13 (ETSI) 5GHz: 36, 40, 44, 48, 149, 153, 157, 161 and 165 (FCC) 36, 40, 44, and 48 (ETSI)

*Maximum wireless signal rates are referenced from IEEE 802.11 theoretical specifications. Actual data throughput and coverage will vary depending on interference, network traffic, building materials and other conditions.

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Troubleshooting

Q: I typed http://192.168.10.100 in my Internet Browser Address Bar, but an error message says "The page cannot be displayed." How can I access the access point management page?

Answer:

1. Check your hardware settings again and that all cables are properly connected
2. Make sure the LAN and WLAN lights are lit.
3. Make sure your network adapter TCP/IP settings are set to *Obtain an IP address automatically* or *DHCP* (see the steps below).
4. Press on the factory reset button for 15 seconds, the release.

Windows 7

a. Go into the **Control Panel**, click **Network and Sharing Center**.

b. Click **Change Adapter Settings**, right-click the **Local Area Connection** icon.

c. Then click **Properties** and click **Internet Protocol Version 4 (TCP/IPv4)**.

d. Then click **Obtain an IP address automatically** and click **OK**.

Windows Vista

a. Go into the **Control Panel**, click **Network and Internet**.

b. Click **Manage Network Connections,** right-click the **Local Area Connection** icon and click **Properties**.

c. Click **Internet Protocol Version (TCP/IPv4)** and then click **Properties**.

d. Then click **Obtain an IP address automatically** and click **OK**.

Windows XP/2000

a. Go into the **Control Panel**, double-click the **Network Connections** icon

b. Right-click the **Local Area Connection** icon and the click **Properties**.

c. Click **Internet Protocol (TCP/IP)** and click **Properties**.

d. Then click **Obtain an IP address automatically** and click **OK**.

Note: *If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.*

Q: I am connected to the access point and able to pull DHCP from my network, but I cannot get onto the Internet. What should I do?

Answer:

1. Verify that you can get onto the Internet with a direct connection into your router (meaning plug your computer directly to the router and verify that your single computer can access the Internet).
2. Power cycle your modem and router. Unplug the power to the modem and router. Wait 30 seconds, and then reconnect the power to the modem. Wait for the modem to fully boot up, and then reconnect the power to the router.
3. Contact your ISP and verify all the information that you have in regards to your Internet connection settings is correct.

Q: I cannot connect wirelessly to the router. What should I do?

Answer:

1. Double check that the WLAN light on the router is lit.
2. Power cycle the access point. Unplug the power to the router. Wait 15 seconds, then plug the power back in to the router.
3. Contact the manufacturer of your wireless network adapter and make sure the wireless network adapter is configured with the proper SSID. The preset SSID is TRENDnet (*model_number)*.
4. Please see "Wireless Performance Consideration" if you continue to have wireless connectivity problems.

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Appendix

How to find your IP address?

Note: *Please note that although the following procedures provided to follow for your operating system on configuring your network settings can be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings.*

Command Prompt Method

Windows 2000/XP/Vista/7

1. On your keyboard, press **Windows Logo+R** keys simultaneously to bring up the Run dialog box.
2. In the dialog box, type ***cmd*** to bring up the command prompt.
3. In the command prompt, type ***ipconfig /all*** to display your IP address settings.

MAC OS X

1. Navigate to your **Applications** folder and open **Utilities**.
2. Double-click on **Terminal** to launch the command prompt.
3. In the command prompt, type ***ipconfig getifaddr <en0 or en1>*** to display the wired or wireless IP address settings.

   Note: en0 *is typically the wired Ethernet and* ***en1*** *is typically the wireless Airport interface.*

Graphical Method

MAC OS 10.6/10.5

1. From the Apple menu, select **System Preferences**.
2. In System Preferences, from the **View** menu, select **Network**.
3. In the Network preference window, click a network port (e.g., Ethernet, AirPort, and modem). If you are connected, you'll see your IP address settings under "Status:"

MAC OS 10.4

1. From the Apple menu, select **Location**, and then **Network Preferences**.
2. In the Network Preference window, next to "Show:" select **Network Status**. You'll see your network status and your IP address settings displayed.

Note: *If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.*

How to configure your network settings to obtain an IP address automatically or use DHCP?

Note: *Please note that although the following procedures provided to follow for your operating system on configuring your network settings can be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for configuring network settings.*

Windows 7

a. Go into the **Control Panel**, click **Network and Sharing Center**.

b. Click **Change Adapter Settings**, right-click the **Local Area Connection** icon.

c. Then click **Properties** and click **Internet Protocol Version 4 (TCP/IPv4)**.

d. Then click **Obtain an IP address automatically** and click **OK**.

Windows Vista

a. Go into the **Control Panel**, click **Network and Internet**.
b. Click **Manage Network Connections,** right-click the **Local Area Connection** icon and click **Properties**.
c. Click **Internet Protocol Version (TCP/IPv4)** and then click **Properties**.
d. Then click **Obtain an IP address automatically** and click **OK**.

Windows XP/2000

a. Go into the **Control Panel**, double-click the **Network Connections** icon
b. Right-click the **Local Area Connection** icon and the click **Properties**.
c. Click **Internet Protocol (TCP/IP)** and click **Properties**.

d. Then click **Obtain an IP address automatically** and click **OK**.

MAC OS 10.4/10.5/10.6

a. From the **Apple**, drop-down list, select **System Preferences**.
b. Click the **Network** icon.
c. From the **Location** drop-down list, select **Automatic**.
d. Select and view your Ethernet connection.
   In MAC OS 10.4, from the **Show** drop-down list, select **Built-in Ethernet** and select the **TCP/IP** tab.
   In MAC OS 10.5/10.6, in the left column, select **Ethernet**.
e. Configure TCP/IP to use DHCP.

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In MAC 10.4, from the **Configure IPv4**, drop-down list, select **Using DHCP** and click the **Apply Now** button.
In MAC 10.5, from the **Configure** drop-down list, select **Using DHCP** and click the **Apply** button.
In MAC 10.6, from the **Configure** drop-down list, select **Using DHCP** and click the **Apply** button.

f. Restart your computer.

Note: *If you are experiencing difficulties, please contact your computer or operating system manufacturer for assistance.*

How to find your MAC address?

In Windows 2000/XP/Vista/7,

Your computer MAC addresses are also displayed in this window, however, you can type ***getmac –v*** to display the MAC addresses only.

In MAC OS 10.4,

1. **Apple Menu > System Preferences > Network**
2. From the **Show** menu, select **Built-in Ethernet**.
3. On the **Ethernet** tab, the **Ethernet ID** is your MAC Address.

In MAC OS 10.5/10.6,

1. **Apple Menu > System Preferences > Network**
2. Select **Ethernet** from the list on the left.
3. Click the **Advanced** button.
3. On the **Ethernet** tab, the **Ethernet ID** is your MAC Address.

How to connect to a wireless network using the built-in Windows utility?

Note: *Please note that although the following procedures provided to follow for your operating system on configuring your network settings can be used as general guidelines, however, it is strongly recommended that you consult your computer or operating system manufacturer directly for assistance on the proper procedure for connecting to a wireless network using the built-in utility.*

Windows 7

1. Open Connect to a Network by clicking the network icon (or) in the notification area.
2. In the list of available wireless networks, click the wireless network you would like to connect to, then click **Connect.**
4. You may be prompted to enter a security key in order to connect to the network.
5. Enter in the security key corresponding to the wireless network, and click **OK**.

Windows Vista

1. Open Connect to a Network by clicking the **Start Button**. and then click **Connect To.**
2. In the **Show** list, click **Wireless**.
3. In the list of available wireless networks, click the wireless network you would like to connect to, then click **Connect.**
4. You may be prompted to enter a security key in order to connect to the network.
5. Enter in the security key corresponding to the wireless network, and click **OK**.

Windows XP

1. Right-click the network icon in the notification area, then click **View Available Wireless Networks**.
2. In **Connect to a Network**, under **Available Networks**, click the wireless network you would like to connect to.
3. You may be prompted to enter a security key in order to connect to the network.
4. Enter in the security key corresponding to the wireless network, and click **Connect**.

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

RoHS

This product is RoHS compliant.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- **EN60950-1:2006+A11: 2009**

  Safety of Information Technology Equipment

- **EN 62311:2008**
- Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

- **EN 300 328 V1.7.1: (2006-10)**
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

- **EN 301 489-1 V1.8.1: (2008-04)**
- Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- **EN 301 489-17 V2.1.1:(2009-05)**
- Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment; Part 17: Specific conditions for 2,4 GHz wideband transmission systems, 5 GHz high performance RLAN equipment and 5,8 GHz Broadband Data Transmitting Systems

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

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